

## ATTACHMENTS

1. CHECKLISTS
2. PHOTOGRAPHS AND PHOTO LOG
3. Revised Part A dated 9-7-99 for a name change from ARCO to Lyondell
4. Letter from Mr Baker discussing the disposition of the cracks noted in the storage pads
5. Generator responsibilities at Lyondell. This page is posted in each laboratory
6. Tag used on small container of waste
7. Label used on larger containers of waste
8. Sample inspection for the drum pad
9. 1997 Biennial Report
10. PADEP report that resulted from the 9-8-99 inspection
11. Sample manifest: NJA3042618
12. Sample manifest: PAE 6916696

**GENERATOR CHECKLIST - PA FACILITIES**

Name of Facility: ARCO CHEMICAL CO LYONDELL

Address of Facility: 3801 West Chester Pike  
Newton Square PA 19073

EPA I.D. Number: PAD046538211

Name/Title of Facility Representative: Thomas Baker  
Environmental Superintendent

**I. General**

1. Provide a brief description of the type of operation(s) that produces hazardous waste at this facility:

R&D for propylene oxide

2. Does the facility perform the following on-site:

- a. storage (>90 day) of hazardous waste?      yes (no)
- b. treatment of hazardous waste?      yes (no)
- c. disposal of hazardous waste?      yes (no)

(if yes, complete appropriate TSD checklists)

**261.4**

3. Is the facility subject to any exclusions for its hazardous waste?      yes (no)

If yes, list the waste and the basis for exclusion:

262.11(a)(3)

4. Has the facility properly determined whether all of its waste exhibits any of the characteristics of hazardous waste?

yes ☒ no

If yes, describe what this determination was based upon (i.e., testing or knowledge of process/materials used).

- Test waste periodically

Bulk solvent tested each time before shipment

If no, describe omissions:

5. Has the facility failed to notify the State of any of its hazardous waste management activities, including locations of all hazardous waste accumulation areas? yes ☒ no

If yes, describe: \_\_\_\_\_

## II. Manifest

Complete this section only if facility ships hazardous waste off-site.

262.12(d)

1. Has the generator offered a shipment of hazardous waste to a transporter that has not received an identification number?

yes ☒ no

262.20(b)

2. Does the facility use the Hazardous Waste Manifest provided by Pa DER whenever transporting hazardous waste? ☒ yes ☐ no

If no, explain: \_\_\_\_\_

If yes, review a representative number of manifests and indicate whether they contain:

**262.20(g)**

- a. Generator's name, mailing address, telephone number and EPA ID number? yes no
- b. EPA/State manifest document numbers? yes no
- c. Total number of pages used to complete the manifest? yes no
- d. Transporter's name and EPA ID number? yes no
- e. DOT waste description, including proper shipping name, hazardous waste class and DOT identification number? yes no
- f. Physical state and hazard codes for each waste? yes no
- g. Number and type of containers (if applicable)? yes no
- h. Quantity (either weight or volume) of each waste transported by hazardous waste number? yes no
- i. Name, EPA ID number and site address of facility designated to receive the waste? yes no
- j. The following certification? yes no

"I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packaged, marked, and labelled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.

Unless I am a small quantity generator who has been exempted by statute or regulation from the duty to make a waste minimization certification under Section 3002(b) of RCRA, I also certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and I have selected the method of treatment, storage or disposal currently available to me which minimizes the present and future threat to human health and environment."

262.22

3. Does the manifest consist of eight copies? ☒ yes ☐ no

262.23

4. Did the generator:

a. Sign and date the certification statement on the manifest? ☒ yes ☐ no

b. Obtain the handwritten signature and date of acceptance from the initial transporter? ☒ yes ☐ no

c. Ensure that copies of the manifest were properly distributed? ☒ yes ☐ no

d. Ensure that return copies of the manifest from the designated TSD facility were properly signed and dated? ☒ yes ☐ no

e. Retain a copy of the signed manifest for at least twenty years? ☒ yes ☐ no

The inspector should obtain copies of any manifests that are found to have problems.

III. Pre-Transport Requirements

Complete this section only if the facility ships hazardous waste off site.

1. Is there any indication that the facility is:

262.30(1)

a. Not packaging its waste in accordance with DOT regulations (49 CFR Parts 173, 178 and 179)?  
yes ☒ no

262.30(2)

b. Not labelling each package in accordance with DOT regulations (49 CFR Part 172)? yes ☒ no

262.30(3)

c. Not marking each container of 110 gallons or less with the words "hazardous waste ----" or each package of hazardous waste in accordance with DOT regulations (49 CFR Part 172)? yes ☒ no

If yes, explain: \_\_\_\_\_

262.33

2. Does the facility placard or offer the transporter placards for its hazardous waste shipments? yes no

If transporter does not have placards - the waste is not shipped

#### IV. Waste Accumulation

Complete this section only if the facility accumulates hazardous waste for less than 90 days.

~~Note~~: Satellite accumulation is ~~not~~ allowed in Pa.

262.34(a)(5)

1. Does the facility maintain personnel training and other records required in 265.16? yes no

If yes, do these records include:

265.16(f)(1)

a. Job title for each position related to hazardous waste management and the employee filling each job?

yes no

265.16(f)(2)

b. A written job description for each position?

yes no

265.16(f)(3)

c. A written description of the type and amount of training that will be given to each person?

yes no

265.16(f)(4)

d. Records that document that the training or job experience required by facility personnel to effectively respond to emergencies and otherwise manage hazardous waste in a proper manner has been successfully completed?

yes no

265.16(d)

2. Have facility personnel successfully completed the required training or job experience within six months after occupying the position? yes no

265.16(e)

3. Do facility personnel take part in an annual review of the initial training requirements and update them as necessary?

yes no

262.34(a)(5)

4. Does the facility maintain an adequate preparedness and prevention program as required in Chapter 265 Subpart C?

yes no

Is the facility equipped with:

265.32(1)

a. Internal communications or alarm system? yes no

265.32(2)

b. Telephone or hand-held two-way radio, immediately available? yes no

265.32(3)

c. Portable fire extinguishers or other fire control equipment, spill control equipment and decontamination equipment? yes no

265.32(4)

d. Adequate volume of water? yes no  
- Sprinkler system R.A. today

265.33

5. Does the facility test and maintain the above equipment to assure its proper operation? yes no

- FIRE & SAFETY

265.35

6. Is there sufficient aisle space to allow the unobstructed movement of personnel and equipment to areas where hazardous waste are located in the event of an emergency? yes no

265.37(a)(1)

7. Has the facility made arrangements with local authorities to familiarize them with the layout of the facility and the nature/hazards of the hazardous waste handled at the facility?

yes no

262.34(a)(5)

8. Has the facility prepared a contingency plan and is it maintained at the facility? yes no

If yes, does it contain the following:

265.52(a)

a. Description of the actions that are to be taken in case of an emergency (all potential types of emergencies should be identified)? yes no

**265.52(c)**

b. Description of arrangements made with local authorities? yes no

**265.52(d)**

c. Current list of emergency coordinators' names, addresses and phone numbers (office and home)? yes no

**265.52(e)**

d. List of all emergency equipment at the facility, including locations, descriptions and relevant capabilities? yes no but only a list - spill kits have instructions

**265.52(f)**

e. evacuation plan for facility personnel? yes no

The inspector should obtain a copy of the facility's contingency plan if any problems are found.

**265.53(2)**

9. Were copies of the contingency plan submitted to local authorities that may provide emergency services? yes no

10. Has the facility's contingency plan ever failed in an emergency? yes no N/A

If yes:

**265.54(2)**

a. Was the contingency plan immediately amended?  
yes no

**265.52(b)**

11. Has the facility's Contingency Plan been approved by Pa DER? yes no ✓

**265.56(j)**

12. If the contingency plan is implemented, does the facility record the incident in its operating log and submit a written report of the incident to Pa DER within 15 days?  
yes no N/A

**262.34(a)(2)**

13. What is the method of waste storage:

Containers? yes no  
Tanks? yes no  
Containment Buildings? yes no  
Other? yes no

If other, describe: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Answer the following questions if the facility uses container storage.

**262.34(a)(2) & (4)**

14. Are the container(s) marked with the yellow DOT Hazardous Waste labels and the date that waste accumulation in that container begins? yes no

**262.34(a)**

15. Based upon accumulation dates, have any container(s) been in storage for more than 90 days? yes no

If yes, the inspector should complete the appropriate TSD checklists.

**265.171**

16. Are container(s) in good condition? yes no

If no, explain: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**265.172**

17. Are container(s) made of or lined with materials which will not react with or be incompatible with the waste they are storing? yes no

**265.173(a)**

18. Are container(s) kept closed? yes no  
*See Report for exception*

**265.171**

19. Are any container(s) leaking? yes no

If yes, describe: \_\_\_\_\_

**265.174**

20. Are container storage area(s) inspected at least weekly and is an adequate inspection record/log maintained?

yes no

If no, explain: \_\_\_\_\_

**265.176**

21. Are container(s) holding ignitable or reactive waste located at least 15 meters (50 feet) from the facility's property line? yes no N/A

22. Are incompatible wastes placed in the same container(s)?  
yes no

If yes:

**265.177(a)**

a. Is there any evidence that conditions of extreme heat or pressure, fire or explosion, violent reactions or toxic emissions occurred? yes no

If yes, describe: \_\_\_\_\_

**265.177(c)**

23. Are container(s) holding incompatible hazardous waste properly separated or protected from one another while in storage? yes no N/A

If no, explain: \_\_\_\_\_

**265.178(a)**

24. Does the container storage area have an effective containment system capable of collecting and holding spills, leaks and precipitation? yes no

If yes:

**265.178(a)(2)**

a. Does the containment system provide efficient drainage from the base to a sump or collection system?  
yes no

**265.178(a)(3)**

b. Does the containment system have sufficient capacity to contain the entire volume of the largest container or 10% of the total volume of all the containers, whichever is greater? yes no

**265.178(b)**

c. Is run-on into the containment system prevented?  
yes no

**265.178(c)**

d. Is spilled or leaked waste removed from the sump or collection system with sufficient frequency to prevent overflow? yes no

25. In the case of flowable liquid wastes (<20% solids) in containers of less than 110 gal capacity:

**265.178(e)(1)**

a. Does the container height exceed 6 feet for indoor storage of reactive or ignitable hazardous waste?  
yes no N/A

**265.178(e)(2)**

b. Does the container height exceed 9 feet for outdoor storage of reactive or ignitable hazardous waste?  
yes no N/A

**265.178(e)(3)**

c. Does the container height exceed 9 feet for either indoor or outdoor storage of non-reactive or non-ignitable hazardous waste? yes no N/A

**265.178(e)(1) & (2)**

26. Is there at least a 5 foot wide aisle for any storage area where reactive or ignitable hazardous is stored?  
yes no N/A

27. In the case of outdoor storage of reactive or ignitable waste:

**265.178(e) (2)**

a. Is there at least a 12 foot wide main accessway through a container storage area?    yes    no    N/A

b. Is there a minimum 40 foot setback from a building?  
yes    no    N/A

Answer the following questions if the facility uses tank storage.    No H.W. tanks used @ this facility

**262.34(a) (2)**

28. Is the tank(s) labelled or clearly marked with the words "Hazardous Waste"?    yes    no

**262.34(a)**

29. Is the tank(s) marked with the date that waste accumulation begins in that tank(s) or does the facility have in its records when waste accumulation started in that tank(s)?    yes    no

**262.34(a)**

30. Based upon accumulation dates, has the facility stored hazardous waste in its tank(s) for longer than 90 days?  
yes    no

**If yes, the inspector should complete the appropriate TSD checklists.**

31. Which of the following describes the type of tank(s) employed at this facility (circle the appropriate one)?

- a. Indoor - not on impermeable floor
- b. Indoor - on impermeable floor
- c. Outdoor - above ground
- d. Outdoor - in ground
- e. Outdoor - underground

32. What is the approximate age of the tank(s)?

\_\_\_\_\_

33. Does the tank(s) appear to be in good condition?  
yes    no    can't tell

If no, describe: \_\_\_\_\_

34. Is the tank(s) leaking?      yes      no      can't tell

If yes, describe: \_\_\_\_\_

**265.193**

35. Is the tank(s) provided with an effective secondary  
containment system of adequate volume?      yes      no

Describe what exists: \_\_\_\_\_

**265.194 (b)**

36. Is the waste that is stored in the tank compatible with  
the material in which the tank(s) or its liner(s) is  
constructed?      yes      no

If no, describe: \_\_\_\_\_

37. Is the tank(s) equipped with an overflow alarm and an  
overflow device to a standby tank?      yes      no

**265.194 (c)**

If no, is there sufficient freeboard (2 feet) in uncovered  
tanks to prevent overtopping or spill over by wave or wind  
action or precipitation?      yes      no      N/A

**265.194 (d)**

38. For a tank(s) having a continuous feed system, is the  
tank(s) equipped with a means to stop the inflow?  
yes      no      N/A

**265.195**

39. Is the tank(s) inspected each operating day?

yes no

If yes, do inspections include:

**265.195(1)**

a. Discharge control equipment? yes no

**265.195(2)**

b. Data gathered from monitoring equipment?  
yes no

**265.195(3)**

c. The level of waste in the tank? yes no

**265.195(4)**

40. Is the construction materials of the tank(s) inspected at least weekly? yes no

**265.195(5)**

41. Is the construction materials of, and the area surrounding, discharge confinement structures inspected at least weekly? yes no N/A

42. Does the facility properly document all of the results of its tank system inspections? yes no

**265.196 (40 CFR)**

43. Is there any indication that the facility did not properly respond to spills or leaks from a tank(s) (this would include failure to stop the spill/leak, failure to clean up spilled/leaked material, failure to minimize migration, failure to remove tank from service immediately, failure to provide notification, etc.)? yes no

If yes, describe: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

44. Does the facility store any ignitable or reactive waste in its tank(s)? yes no

If yes:

**265.198(a)(1)**

a. Is the waste treated, rendered or mixed before or immediately after placement in the tank(s) so that it no

of sufficient strength?        yes        no

If no, describe: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

**265.1101(a) (3)**

47. Is there any indication that incompatible waste is being improperly stored in the containment building?

yes        no

If yes, describe: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

**265.1101(a) (4)**

48. Does the containment building(s) have a primary barrier that appears to be sufficiently durable and effective?

yes        no

If no, describe: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

49. Does the containment building manage hazardous waste containing free liquids?        yes        no

If no, skip to question 52:

**265.1101(b) (2)**

50. Is there a liquid collection and removal system available to prevent the accumulation of liquid on the primary barrier?        yes        no

If yes, describe the system and the presence/absence of collected liquids: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

**265.1101(b) (3)**

51. Is there an effective secondary containment system (i.e., secondary barrier) and a leak detection system capable of detecting failure of the primary barrier?        yes        no

If no, describe: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

52. Does the containment building serve as secondary containment for tank(s) placed within the building?  
yes      no

If yes,

**265.1101(b) (3) (iii)**

- a. Does it appear to meet the secondary containment system requirements for tanks described in §265.193 (i.e., must be compatible with waste, have sufficient strength and durability, and be designed to effectively detect and collect releases of liquid)?      yes      no

If no, describe: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**265.1101(c) (1) (i)**

53. Is the primary barrier free of significant cracks, gaps, corrosion or other deterioration/openings?      yes      no

**265.1101(c) (1) (ii)**

54. Is the hazardous waste stored at a height that exceeds the height of any containment wall?      yes      no

**265.1101(c) (1) (iii)**

55. Is any hazardous waste tracked outside of the containment building by personnel or equipment?      yes      no

**265.1101(c) (1) (iv)**

56. Are any fugitive emissions exiting the containment building via doors, windows, cracks, vents, etc?  
yes      no

**265.1101(c) (2)**

57. Does the facility have a certification for the containment building by a qualified registered professional engineer?      yes      no

58. Does the facility have an inspection plan for its containment building that establishes an effective inspection program, including a schedule that requires all monitoring/leak detection equipment to be inspected as well as checks for leaks/releases at least every 7 days?      yes      no

**265.1101(c) (3)**

59. Is there any indication that the containment building was improperly operated or maintained or that the owner/operator did not respond properly once the detection of a hazardous waste release occurred?  
yes      no

If yes, describe: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**262.34(a)**

60. Does the facility have written documentation showing that procedures are in place to ensure that individual additions and removals of waste to/from the containment building are consistent with the 90 day storage time limit that applies for all wastes managed in the unit?      yes      no

[If waste is being stored in a containment building for greater than 90 days, the inspector should complete the appropriate TSD checklist.]

Additional Comments

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

## V. Recordkeeping and Reports

### 262.42 (b)

1. Does the facility prepare an Exception Report and submit it to the Pa. DER if a signed copy of the manifest is not received within 45 days of the date the waste was accepted by the initial transporter?    yes    no    *N/A*

If yes, does the Exception Report include:

#### 262.42 (b) (1)

a. Legible copy of the manifest?    yes    no

#### 262.42 (b) (2)

b. Cover letter explaining generator's efforts to locate waste and the results of those efforts?    yes    no

### 262.41 (a)

2. If the facility ships any hazardous waste off-site, does it prepare a Quarterly Report and submit it to Pa. DER by the appropriate dates (i.e., April 30, July 31, October 31, January 31)?    yes    no    *N/A*

*biennial Report*  
If yes, does the facility use the form designated by Pa. DER as its Quarterly Report and is it properly completed?  
yes    no

If no, explain: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

3. Does the facility provide to EPA, on at least a biennial basis (by March 1 of each even numbered year), the following:

#### 262.41 (a) (6) (40 CFR)

a. A description of the efforts undertaken during the year to reduce the volume and toxicity of the waste generated?    yes    no

#### 262.41 (a) (7) (40 CFR)

b. A description of the changes in volume and toxicity of the waste actually achieved during the year?    yes    no

### 262.40 (a) (b) (c)

4. Does the facility retain copies of signed manifests,

✓ Quarterly Reports, Exception Reports and test results/waste analyses for a minimum of 20 years from the date that the waste was last sent to on-site or off-site treatment, storage or disposal?      yes      no

**262.45**

5. Has the facility submitted to Pa. DER, if required, a properly prepared plan relating to the disposal of its hazardous waste either at an on-site or off-site treatment or disposal facility?      yes      no      N/A      NONE observed

**262.46(d)**

6. Has the facility filed a properly prepared report with Pa. DER within 15 days of any event where a discharge or spill equal or greater than the reportable quantity for that given hazardous waste occurred or any discharges into surface or ground water?      yes      no      N/A

Additional Comments:

---

---

---

---

**SMALL QUANTITY GENERATORS**

Facility A LQG

Answer the following questions if the facility generates a total quantity of hazardous waste between 100 kg and 1000 kg per month (or less than 1 kg of acutely hazardous waste or 100 kg of clean-up residue/debris containing P or U listed wastes).

Answer questions in General Section (i.e., numbers 1 through 5) of this checklist.

1. Does the facility accumulate hazardous waste on-site?  
yes      no

If no, skip to question 3.

2. Has the facility accumulated more than 1000 kg of hazardous waste (or more than 1 kg of acutely hazardous waste or 100 kg of clean-up residue/debris containing P or U listed wastes)?  
yes      no

**261.5(d) & 216.5(g) (2)**

If yes, the facility is subject to all of the LQG regulations for those accumulated wastes for which the accumulation quantity limit was exceeded. In addition, the 90 day accumulation time limit begins for SQGs when the accumulated waste exceeds the accumulation quantity limit. In this case the entire LQG checklist must be completed as well.

If no, answer the following questions:

**261.5(g) (1)**

3. Has the facility complied with the hazardous waste determination requirements applicable to all generators?

yes      no

If no, the facility is not excluded from Chapters 262 - 265 and the other sections of this checklist will need to be completed.

**261.5(g) (3)**

4. Is there any indication that the facility is not properly treating or disposing of its wastes either at an on-site or off-site facility?      yes      no

If yes, the facility is not excluded from Chapters 262 - 265 and the other sections of this checklist will need to be completed.

If yes, describe problem with waste treatment or disposal:

---

---

---

---

**262.11(c) & (d)**

5. Does the facility retain copies of waste evaluation material as well as records of quantities, descriptions and dispositions of the wastes for at least five years?

yes      no

**Additional Comments:** \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

INSPECTION CHECKLIST  
AIR EMISSION STANDARDS  
FOR

TANKS, SURFACE IMPOUNDMENTS AND CONTAINERS

(Part 264/265 Subpart CC)

9/98

Name of Facility \_\_\_\_\_ ARCO CHEMICAL COMPANY

Location of Facility \_\_\_\_\_

Date of Inspection - \_\_\_\_\_

Name of Inspector - \_\_\_\_\_

RCRA Id Number \_\_\_\_\_ PAD046538211

A. General - Applicability

- circle the appropriate answer -

1. Is this facility (a) TSDF or (b) Large Quantity Generator w/ 90 day waste accumulation? (other types of facilities are not subject to these regulations - satellite accumulation units are also not regulated)

If (a), is this facility (a) permitted or does it have (b) interim status?

2. Does this facility manage its waste in (a) tanks, (b) surface impoundments or (c) containers? ~~(a)~~ ~~(b)~~

If (c), are the containers larger in volume than 26 gallons? yes no (if no, containers are exempt - 265.1080(b)(2))  
SOME CONTAINERS ARE < 26 GAL

3. Has any waste been placed in the facility's management unit(s) since December 6, 1995 yes N/A no (if no, unit(s) are exempt - 265.1080(b)(1))

4. Are tank(s) or surface impoundment(s) no longer receiving waste and are they either closed already or in the process of being closed pursuant to an approved closure plan? N/A  
yes no (if yes, unit(s) are exempt - 265.1080(b)(3) & (4))

5. Are any of the facility's management unit(s) used solely for on-site treatment or storage of hazardous waste that is

generated from RCRA corrective action or CERCLA activities?  
yes no (if yes, unit(s) are exempt - 265.1080(b)(5))

6. Are any of the facility's management unit(s) used solely to manage radioactive mixed waste in accordance with other applicable regulations? yes no (if yes, unit(s) are exempt - 265.1080(b)(6))
7. Are the facility's management unit(s) certified as being equipped with and operating air emission controls in accordance with Clean Air Act requirements? (if yes, unit(s) are exempt - 265.1080(b)(7)) none
8. Do any of the facility's management unit(s) contain hazardous waste with an average VO concentration at the point of waste generation if generated on-site or at the point of waste acceptance if generated off-site of less than 500 ppm by weight? yes no (if yes, unit(s) are exempt - 265.1083(c)(1))
9. Do any of the facility's management unit(s) contain hazardous waste whose organic content has been reduced by an organic destruction or removal process that achieves one of the necessary requirements (see 265.1083(c)(2))? yes no (if yes, the unit(s) are exempt - 265.1083(c)(2))
10. Are any of the facility's tanks used to biologically treat hazardous waste? yes no N/A (if yes, the unit(s) are exempt - 265.1083(c)(3))
11. Do any of the facility's management units receive hazardous waste that meets the appropriate LDR treatment standards or has been treated using the treatment technology established by EPA? yes no (if yes, the unit(s) are exempt - 265.1083(c)(4))
12. Are any of the facility's tanks used for bulk feed of hazardous waste to a waste incinerator? yes no N/A (if yes, the unit(s) are exempt - 265.1083(c)(5))
13. Do any of the facility's tanks, surface impoundments or containers serve as recycling units (i.e., units actually performing the recycling function)? yes no (if yes, the unit(s) are exempt - 261.6(c)(1))

## **B. Waste Determination**

**265.1084(a)(1)**

1. Does the facility determine the VO content of its hazardous waste at the point of waste origination? yes no

**265.1084(a) (2)**

If yes, does the facility determine the VO content of its hazardous waste by (a) direct measurement or (b) using knowledge of the waste?

**265.1084(a) (4) (i)**

If (b), has the facility prepared and maintained documentation that presents the information used as the basis for the O/O's knowledge of the hazardous waste stream's average VO concentration? yes no

**265.1084(a) (3) (ii) (A)**

2. Does the averaging period selected for determining the average VO concentration exceed one year? yes no N/A

**265.1084(a) (3) (ii) (B)**

3. Were at least four representative samples collected during the averaging period? yes no N/A

**265.1084(a) (3) (ii) (C)**

4. Does the facility have a written sampling plan which describes the procedures by which representative samples will be collected and handled and is a copy maintained on-site?  
yes no

5. Is EPA Method 25D used for VO analysis? yes no

If no, what method is used?

---

---

6. Were all sampling results properly used to compute the average VO concentration of the hazardous waste? yes no N/A

**265.1084(b) (1)**

7. Does the facility determine the VO content of its treated hazardous waste that is placed in a waste management unit exempted under §265.1083(c) (2)? yes no N/A

*No treatment.*

If no, go to question 11

**265.1084(b) (3) (ii) (A)**

8. Does the averaging period selected for determining the average VO concentration exceed one year? yes no N/A

265.1084 (b) (3) (ii) (B)

9. Were at least four representative samples collected during the averaging period?      yes      no      N/A

265.1084 (b) (3) (ii) (C)

10. Does the facility have a written sampling plan which describes the procedures by which representative samples will be collected and handled and is a copy maintained on-site?  
yes no

11. Does the facility perform any other waste determinations as required by the Subpart CC regulations?    yes    no

If yes, describe:

through knowledge of the master

C.      Tanks

110 Tanks @ this Location

skip this section if the facility does not use tanks for waste management

1. Which of the following emissions control devices does the facility employ for its tanks that manage hazardous waste (circle appropriate ones)
- a. fixed roof (Level 1 control)
  - b. fixed roof equipped with an internal floating roof (Level 2 control)
  - c. external floating roof (Level 2 control)
  - d. tank vented through a closed vent system to a control device (Level 2 control)
  - e. pressure tank (Level 2 control)
  - f. tank located inside an enclosure that is vented through a closed-vent system to an enclosed combustion control device (Level 2 control)
  - g. other
  - h. none

If (g) ~~other~~, describe:

2. Does it appear as though the device being used is designed and operated properly (i.e., were any emissions likely to occur)?  
yes    no    N/A

If no, describe:

---

---

---

3. Does the facility test the vapor pressure of the hazardous waste in the tank?    yes    no

4. Is the hazardous waste in the tank heated?    yes    no

5. Is the hazardous waste in the tank treated using a waste stabilization process?    yes    no

6. Given the answers to questions 3, 4 and 5 does it appear that the facility has selected the appropriate emissions control device(s) - see §265.1085(b)(1) & (2)?    yes    no

**D. Surface Impoundments** *NO SURFACE Impoundment @ this location*

skip this section if the facility does not use surface impoundments for waste management

1. Which of the following emissions control devices does the facility employ for its surface impoundments that manage hazardous waste (circle appropriate ones)

a. floating membrane cover

b. cover that is vented through a closed-vent system to a control device

c. other

d. none

If (c) other, describe:

---

---

---

- If no, describe:

skip this section if the facility does not use containers for waste management

- h. other                      i. none

RCRA-CC

2. Does it appear as though the device being used is designed and operated properly (i.e., were any emissions likely to occur)?  
yes      no      N/A

If no, describe:

- DOT drums

3. What size(s) are the facility's containers?

55 gal or less

4. Are the facility's containers in "light material service" (see definition below)?      yes      no

In light material service means the container is used to manage a material for which both of the following conditions apply: the vapor pressure of one or more of the organic constituents in the material is greater than 0.3 kilopascals (kPa) at 20 °C and the total concentration of the pure organic constituents having a vapor pressure greater than 0.3 kPa at 20 °C is equal to or greater than 20 percent by weight.      UNKNOWN

5. Are the facility's containers used for treatment of a hazardous waste by a waste stabilization process?      yes      no
6. Given the answers to questions 3, 4 and 5 does it appear that the facility has selected the appropriate emissions control device(s) - see §265.1087(b)(1) & (2)?      yes      no

**F. Inspections & Monitoring**

NO AIR emission controls

complete this section if the facility is using air emission controls

**265.1089(b)**

1. Has the facility developed and implemented a written plan and

schedule to perform all required inspection and monitoring activities?      yes      no

2. Did the facility perform an initial inspection of its emissions control devices and at least annual inspections thereafter?      yes      no
3. In the event of a defect involving a tank or surface impoundment, did the facility make first repairs no later than 5 calender days after detection and complete repairs no later than 45 calender days after detection?  
yes      no      N/A
4. In the event of a defect involving a container, did the facility make first repairs no later than 24 hours after detection and complete repairs no later than 5 calender days after detection?      yes      no      N/A

**G. Recordkeeping**

1. Has the facility recorded and maintained the following information:

**265.1090(b)(1)**

- (a) A tank identification number and a record of each inspection for that tank that includes the date, a description of each defect that was detected and corrective actions undertaken to repair defects?  
yes      no      N/A

**265.1090(b)(2)**

- (b) A description of the emissions control device used on the tank, including its design features and any relevant monitoring data required for that particular device?  
yes      no      N/A

**265.1090(c)(1) & (3)**

- (c) A surface impoundment identification number and a record of each inspection for that surface impoundment that includes the date, a description of each defect that was detected and corrective actions undertaken to repair defects?      yes      no      N/A

**265.1090(c)(2) & (4)**

- (d) A description of the emissions control device used on the surface impoundment, including its design features and any relevant monitoring data or certification required for that particular device?      yes      no      N/A

**265.1090(d)(1)**

- (e) Records pertaining to calculations and measurements to verify enclosure criteria as required for facilities having containers using Container Level 3 air emission controls?    yes    no    N/A

**265.1090(e)(1)**

- (f) Records pertaining to the design and certification of closed-vent systems and control devices along with performance test data, a description of planned routine maintenance and a description of malfunctions of the control device system?    yes    no    N/A

**265.1090(f)(1)**

- (g) Records pertaining to the exemption of tanks, surface impoundments or containers including waste determination test results, measurements, calculations and other documentation?    yes    no    N/A

**265.1090(f)(2)**

- (h) For waste management unit(s) exempted under the provisions of §265.1083(c)(2)(vii) or §265.1083(c)(2)(viii), the identification number for the incinerator, boiler or industrial furnace in which the hazardous waste is treated?    yes    no    N/A

**265.1090(g)**

- (i) The identification numbers for all waste management unit(s) with covers that are "unsafe to inspect and monitor" with an explanation for each cover stating why it is unsafe to inspect and monitor and the plan and schedule for inspecting and monitoring each cover?  
yes    no    N/A

**265.1090(a)**

2. Are all records specified in items (a) through (i) above, except for those pertaining to air emissions control equipment design, maintained in the operating record for a minimum of three years (records for equipment design must be maintained until the equipment is replaced or otherwise no longer in service)?    yes    no    N/A

**Comments:**

---

---

**LDR CHECKLIST FOR GENERATORS**  
(revised August, 1998)

Date: 9-8-99

Name of Facility: ARCO CHEMICAL CO Lyondell

Address of Facility: 3801 West Chester Pike  
Newtown Square, PA 19023

EPA I.D. Number: PAD046538211

**261.20 - 261.24**

1. Does the facility generate any "characteristic" hazardous waste?

☒ Yes

☐ No

If yes, circle the appropriate one(s)

☒ D001

☒ D002

D003

D004-D011\*

D012-D043

\* Subject to LDR regs if waste was assumed or determined via testing to fail TCLP thresholds. Prior to August 24, 1998, if waste was assumed or determined via testing to pass EP Tox, but failed TCLP it was considered a newly listed waste and was not subject to the LDR regs

**261.30 - 261.33**

2. Does the facility generate any "listed" hazardous waste?

☒ Yes

☐ No

If yes, list the waste code(s)

See Attached Part A Notification  
for List of waste generated.

3. Does the facility generate any contaminated soil?

☐ Yes

☒ No

4. Does the facility generate any hazardous debris (debris means any solid material exceeding a 60 mm particle size that is a manufactured object, plant or animal matter or natural geologic

formation but is not a process residual such as a slag, sludge/residue associated with waste treatment or a material already having a specified treatment standard - hazardous debris means a debris containing a hazardous waste)? **Yes** No

If yes, has the hazardous debris been excluded from the definition of a hazardous waste under 261.3(f)(2) i.e., determined not to be a hazardous waste by the Regional Administrator/Director?

**Yes**

**No**

N/A

**268.1(e)**

5. Is any of the facility's waste excluded from LDR regulation because (a) it was generated by a small quantity generator (<100 kg/mo), (b) it was a waste pesticide that a farmer disposed of, (c) it was not identified or listed as hazardous until after November 8, 1984 and prohibitions/treatment standards have not yet been promulgated, (d) it was a de minimis loss to wastewater treatment systems of a commercial chemical product or chemical intermediates that are ignitable or corrosive, (e) it is a laboratory waste displaying the characteristic of ignitability, corrosivity or organic toxicity (D012-D043) that is commingled with other wastewaters before being treated in a permitted facility or (f) it is classified as a "universal" waste (batteries, pesticides, thermostats)? **Yes** **No**

If yes, describe:

lab pack waste

**268.5 & 268.6**

6. Is any of the facility's waste subject to an LDR exemption, waiver, delisting or national capacity variance? **Yes** No

If yes, identify which and obtain documentation:

**262.11(c) & 268.7(a)**

7. Does the facility (a) test its waste using TCLP or (b) apply

knowledge of its waste to determine whether its listed waste or contaminated soil exhibits a characteristic of hazardous waste and whether its restricted from land disposal?      **Yes**      **No**      **N/A**

If yes, circle (a) or (b)

*- Disposal Facility Waste  
Waste profile*

**268.7(a) (1)**

8. Unless its wastes or contaminated soil are subject to a particular treatment technology before they can be land disposed, does the generator (a) test its waste(s) or **(b)** use knowledge of the waste(s) to determine if either its characteristic or listed waste is prohibited from land disposal (i.e., does not meet applicable treatment standards) and thus must be treated before it can be land disposed?      **(Yes)**      **No**

If yes, circle (a) or (b)

**268.9(a) & 268.7(a)**

9. Does the generator determine each EPA hazardous waste code applicable to the waste in order to determine the applicable treatment standards?      **(Yes)**      **No**

**268.7(a)**

10. If testing of waste is performed, does the facility do a total waste analysis where required and/or a TCLP waste extract analysis where it is required (refer to Table 268.40)?

**Yes**      **No**      **N/A**

**268.7(a) & 268.9(a)**

11. If the facility generates a waste that displays a hazardous characteristic, has it determined what "reasonably expected" underlying hazardous constituents (UHCs) are present in this waste?

**Yes**      **No**      **N/A**

**268.40 - 268.48**

12. Does the facility's hazardous waste(s) exceed any of the applicable treatment standards upon generation (including Universal Treatment Standards for underlying hazardous constituents, technology based standards and special treatment standards for non-excluded hazardous debris, lab packs or contaminated soil)?

**(Yes)**      **No**      **N/A**

13. If the facility generates waste containing any of the organic solvents listed in the F001 - F005 waste codes, were those chemicals used for or did the waste result from their solvent properties (i.e., degreasing, dissolving, cleaning, solubilizing, etc.)? Yes No N/A

If N/A, skip to question 16

If no, describe below what were these chemicals used for

14. How did the facility classify the waste containing the organic solvents listed in the F001 - F005 waste codes (circle the appropriate waste code)? ✓

D001 TC F001 -F005 P or U Other(describe)

see Attached Manifest for  
example of Bulk Shipment

15. Is there any evidence that solvent waste was misclassified?  
Yes No

If yes, describe

268.2(f) 268.40 - 268.48

16. Does the facility analyze its waste for TOC and TSS to determine proper treatability group (i.e., wastewater or non-wastewater) or in the case of D001, proper waste subcategory)?

Yes No N/A

generally knowledge is used to determine.

If no, describe below how this determination is made:

---

---

---

17. Does it appear that any other restricted waste was misclassified or placed in the wrong treatability/sub-category group?      Yes      No

If yes, describe:

---

---

---

18. Does the facility, in any way, mix/aggregate/dilute any of its restricted hazardous waste with another hazardous waste, non-hazardous waste or non-waste material prior to (1) storage, (2) treatment or (3) disposal (include burning/thermal treatment of waste where no cyanides or LDR organics are involved since this is also dilution)?      Yes      No X

If yes, describe the wastes involved, when, where and why it's done or other important circumstances. Note whether dilution of an ignitable, corrosive or reactive waste, except D003 reactive cyanide, occurs as a result of treatment in a permitted facility (includes impoundments). If the treatment method provided is effective for that type of waste or is specified as the technology standard or the prohibited waste is treated in a surface impoundment in accordance with 268.4 this type of dilution is permissable.

---

---

---

---

268.3(a)

19. Based on your observations, does it appear that the facility is using dilution as a substitute for appropriate/legitimate treatment or to improperly switch treatability group (i.e., wastewater vs non-wastewater)?

Yes No

If yes, describe as necessary:

✓  
why is the Acetone  
& IPA mixture used.

separate unit.

disposed

20. In the case of a mixture of wastes with both concentration level treatment standards and specified treatment technology, does the facility recognize that both must be achieved?

Yes No N/A

268.9(b)

21. Where waste or waste mixtures have both characteristic and listed waste codes, does the facility recognize that the treatment standard associated with each characteristic and listed waste must be met unless the characteristic constituent is specifically addressed in the treatment standard for the listed waste?

Yes No N/A

268.7(a), 268.9(a)&(c) & 268.40(e)

22. Does the generator recognize that any underlying hazardous constituents reasonably expected in its characteristic waste, whether mixed with listed waste or not, must be addressed in LDR notifications and/or certifications?

Yes No N/A

268.9(d)

23. Does the facility send treated characteristic waste that is no longer hazardous to a Subtitle D landfill?

Yes No N/A

If yes:

a. Has it placed a one-time notification and certification in its files and sent a copy to the EPA Regional

Administrator/State Director?      **Yes**      **No**

b. Is the notification and certification updated whenever the process or operation generating the waste changes and/or if the Subtitle D facility receiving the waste changes?

**Yes**      **No**      **N/A**

24. Does the facility generate lab packs?      **Yes**      **No**

If no, skip to question 27

25. Are there Appendix IV wastes (including mercury wastes) in these lab packs?      **Yes**      **No** ✓

**268.7(a)(9)**

26. Are alternate treatment standards being applied?      —

**Yes**      **No**

If no, are the proper waste/constituent specific treatment standards being applied?      **Yes**      **No**

If yes -

Has the generator submitted a notice to the treatment facility, with its initial shipment of waste, of all waste codes contained in the lab packs?      **Yes**      **No** ✓

268.7(c) Has the generator certified that its lab pack contains none of the wastes identified in Appendix IV?      **Yes**      **No**

**268.7(a)(5)**

27. Does the facility treat any of its hazardous wastes or contaminated soil in 90 day tanks, containers or containment buildings to meet the applicable treatment standards, which may include alternative soil treatment standards adopted by the State?

**Yes**      **No**

If yes, has the facility prepared a waste analysis plan which includes frequency of testing?      **Yes**      **No**

If yes, is the plan kept on site in the facility's files?

**Yes**      **No**

**268.7(a)(2)**

28. Has the generator submitted a one time written notice with the initial shipment of waste or contaminated soil to each treatment or storage facility if its waste does not meet applicable treatment standards?      Yes      No      N/A *Waste varies too much to use the* ✓

If yes, answer the following questions pertaining to notifications:

268.7 (a) (2)

a) Do the notifications include the EPA Hazardous Waste Number?      Yes      No

268.7 (a) (2)

b) Do the notifications include the underlying hazardous constituents for characteristic wastes as well as the waste constituents that the treater should monitor if monitoring will not include all regulated constituents for wastes F001-F005 and F039 ?      Yes      No      N/A

268.7 (a) (2)

c) Do the notifications specify whether the waste is a non-wastewater or wastewater and applicable sub-categories?      Yes      No      N/A

268.7 (a) (2)

d) Do the notifications include the manifest number associated with the shipment of waste?      Yes      No

268.7 (a) (2)

e) For hazardous debris which is using the alternative treatment technologies, do the notifications include the contaminants subject to treatment?      Yes      No      N/A

268.7 (a) (2)

f) Do the notifications include available waste analysis data?      Yes      No      N/A

268.7 (a) (2) (i)

g) For contaminated soil, is there a certification statement signed by an authorized representative indicating its LDR status?      Yes      No      N/A

268.7 (a) (3) (i)

29. Has the facility submitted, with the initial shipment of waste or contaminated soil to each treatment, storage or disposal facility, a one time written notice that its waste meets the appropriate treatment standards?      Yes      No      N/A

If yes, answer the following questions pertaining to notifications:

**268.7(a)(3)(i)**

a) Do the notifications include the EPA Hazardous Waste Number?      **Yes**      **No**

**268.7(a)(3)(i)**

b) Do the notifications include the underlying hazardous constituents for characteristic wastes as well as the waste constituents that the treater should monitor if monitoring will not include all regulated constituents for wastes F001-F005 and F039 ?      **Yes**      **No**      **N/A**

**268.7(a)(3)(i)**

c) Do the notifications specify whether the waste is a non-wastewater or wastewater and applicable sub-categories?  
                 **Yes**      **No**      **N/A**

**268.7(a)(3)(i)**

d) Do the notifications include the manifest number associated with the shipment of waste?      **Yes**      **No**

**268.7(a)(3)(i)**

e) Do the notifications include the required certification statement signed by an authorized representative?  
                 **Yes**      **No**

**268.7(a)(3)(i)**

f) Do the notifications include available waste analysis data?  
                 **Yes**      **No**      **N/A**

**268.7(a)(3)(ii)**

30. If the waste changes, has the generator sent a new notice and/or certification to the receiving facility and placed a copy in their files?      **Yes**      **No**      **N/A** *ax*

**268.7(a)(6)    268.7(a)(8)**

31. Has the generator retained in on-site files the following materials:

a) all data used to determine whether its waste is restricted or meets applicable treatment standards upon generation, including knowledge of waste and test results?      **(Yes)**      **No**

b) copies of all notices and certifications for the past three years that were sent to treatment/disposal facilities and contractual agreements where the waste and the treater stay the same? Yes No

55 FR 22662(A.1) 268.7(a)(7)

32. If the generator treats a restricted waste in a WWTP having an NPDES permit, is there a statement in its operating log indicating that the WWTP is treating a RCRA restricted waste?

Yes

No

N/A

Additional Comments

---

---

---

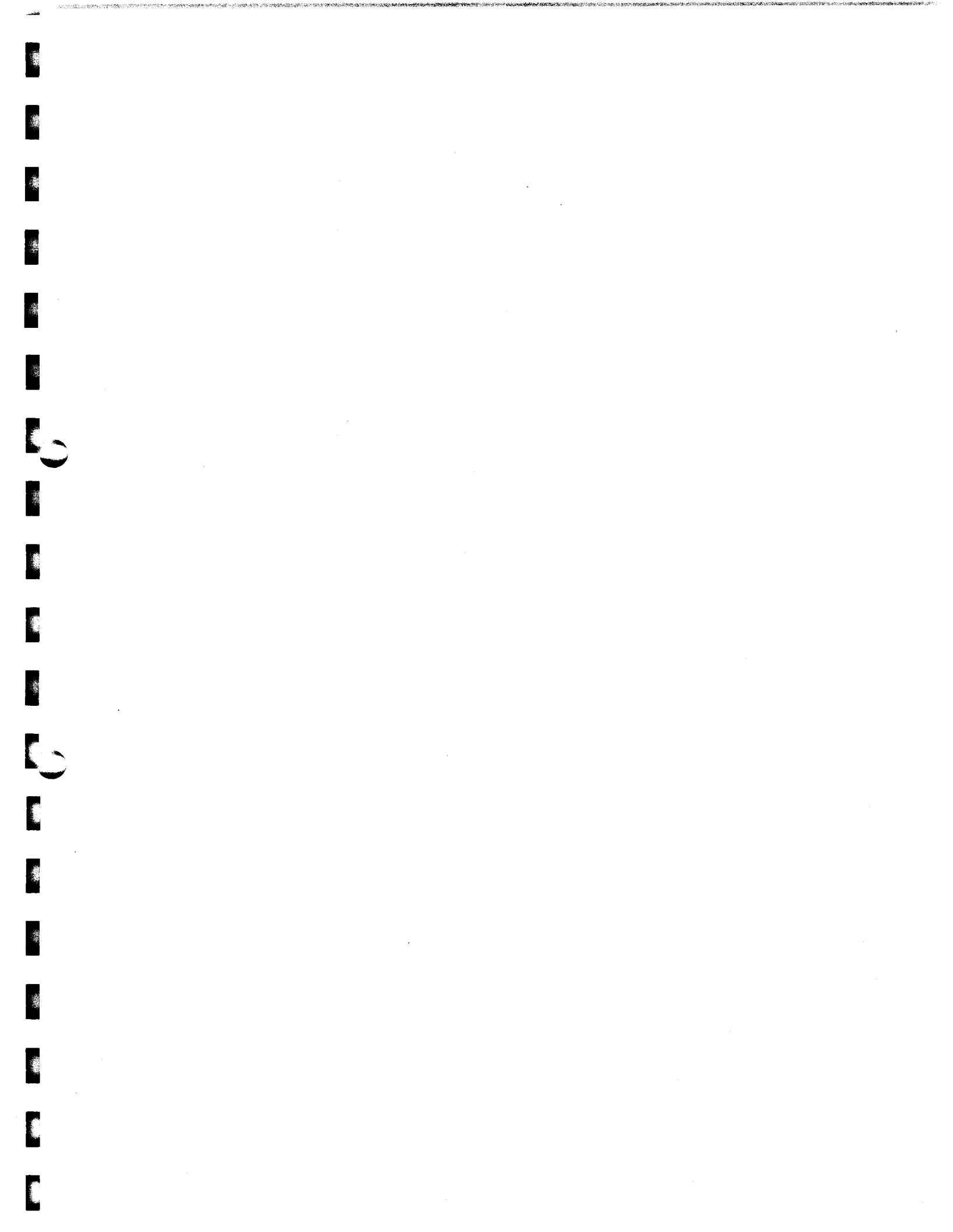
---

---

---

---

---



COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
BUREAU OF LAND RECYCLING AND WASTE MANAGEMENTSUPPLEMENT TO U.S. EPA NOTIFICATION OF HAZARDOUS WASTE ACTIVITY FORM  
(EPA Form 8700-12)

I. Installation's EPA I.D. Number

P A D 0 4 6 5 3 8 2 1 1

II. Name of Installation

Lyondell Chemical Worldwide, Inc.

III. Location of Installation

Newtown Township, Newtown Square, PA

Delaware

Municipality (Township, Borough, City)

County

IV. IRS Employer Identification Number

5 1 — 0 1 0 4 3 9 3

V. SIC Codes (four-digit number in order of priority)

2 8 6 9

Specify: Research &  
Development  
Activities

Specify:

Specify:

Specify:

VI. Type of Hazardous Waste Activity

- ☒ 1. Generator (1,000 kg/mo or greater)
- ☐ 2. Small Quantity Generator (greater than 100 kg/mo but less than 1,000 kg/mo)
- ☐ 3. Treatment

- ☐ 4. Storage
- ☐ 5. Disposal
- ☐ 6. Reuse, Recycle, Reclaim
- ☐ 7. Permit by Rule (PBR)

(Type or PBR; see 25 Pa. Code § 270.60)

VII. Existing Environmental Permits

A. NPDES (Discharges to Surface Water) Storm Water

P A R 2 3 0 0 7 0

D. PSD (Air Emissions from Proposed Sources)

S M O P - 2 3 - 0 0 0 5 9

B. UIC (Underground Injection of Fluids)

N O T A P P L I C A B L E

E. Municipal Waste (As defined in Act 97)

N O T A P P L I C A B L E

C. RCRA (Hazardous Waste) Generator Only

P A D 0 4 6 5 3 8 2 1 1

F. Residual Waste

N O T A P P L I C A B L E

G. Permit by Rule

Name of POTW DELCORA

POTW NPDES Number

2 0 2 - D 3 0

H. Other Permits UST Facility ID #

2 3 - 0 4 0 4 4

## ID - For Official Use Only

## IX. Description of Regulated Wastes (Continued; (Additional Sheet)

## B. Listed Hazardous Wastes. (See 40 CFR 261.31 - 33; Use this page only if you need to list more than 12 waste codes.)

13			
F	0	0	4
19			
P	0	1	2
25			
P	0	4	7
31			
P	0	7	7
37			
P	1	0	6
43			
P	2	0	5
49			
U	0	1	2
55			
U	0	6	8
61			
U	1	0	2
67			
U	1	1	2
73			
U	1	2	3
79			
U	1	5	1
85			
U	1	6	2
91			
U	2	0	9
97			
U	2	2	1
103			
U	2	7	9
109			
7	7	7	7
115			
14			
F	0	0	5
20			
P	0	1	4
26			
P	0	4	8
32			
P	0	7	8
38			
P	1	0	8
44			
U	0	0	1
50			
U	0	2	9
56			
U	0	6	9
62			
U	1	0	3
68			
U	1	1	3
74			
U	1	3	3
80			
U	1	5	2
86			
U	1	6	5
92			
U	2	1	3
98			
U	2	2	2
104			
U	3	5	3
110			
116			
15			
F	0	2	7
21			
P	0	2	0
27			
P	0	6	8
33			
P	0	8	7
39			
P	1	1	3
45			
U	0	0	6
51			
U	0	4	1
57			
U	0	8	0
63			
U	1	0	5
69			
U	1	1	5
75			
U	1	3	4
81			
U	1	5	3
87			
U	1	6	9
93			
U	2	1	4
99			
U	2	2	3
105			
U	4	0	4
111			
117			
16			
P	0	0	3
22			
P	0	2	4
28			
P	0	6	9
34			
P	0	9	8
40			
P	1	1	9
46			
U	0	0	7
52			
U	0	4	4
58			
U	0	9	2
64			
U	1	0	6
70			
U	1	1	7
76			
U	1	3	8
82			
U	1	5	6
88			
U	1	8	8
94			
U	2	1	6
100			
U	2	2	8
106			
X	9	1	8
112			
118			
17			
P	0	0	5
23			
P	0	2	8
29			
P	0	7	5
35			
P	1	0	4
41			
P	1	2	0
47			
U	0	0	8
53			
U	0	5	2
59			
U	0	9	6
65			
U	1	0	7
71			
U	1	2	1
77			
U	1	4	4
83			
U	1	5	9
89			
U	1	9	0
95			
U	2	1	7
101			
U	2	3	8
107			
X	9	4	0
113			
119			
18			
P	0	1	1
24			
P	0	3	0
30			
P	0	7	6
36			
P	1	0	5
42			
P	1	2	1
48			
U	0	0	9
54			
U	0	5	3
60			
U	1	0	1
66			
U	1	0	8
72			
U	1	2	2
78			
U	1	4	7
84			
U	1	6	0
90			
U	2	0	4
96			
U	2	1	9
102			
U	2	4	6
108			
6	6	6	6
114			
120			

## ID - For Official Use Only

## VIII. Type of Regulated Waste Activity (Mark 'X' in the appropriate boxes. Refer to Instructions)

## A. Hazardous Waste Activity

## B. Used Oil Recycling Activities

1. Generator (See Instructions)  
☒ a. Greater than 1000kg/mo (2,200 lbs.)  
☐ b. 100 to 1000 kg/mo (220-2,200 lbs.)  
☐ c. Less than 100 kg/mo (220 lbs.)
2. Transporter (Indicate Mode in boxes 1-5 below)  
☐ a. For own waste only  
☐ b. For commercial purposes
- Mode of Transportation  
☐ 1. Air  
☐ 2. Rail  
☐ 3. Highway  
☐ 4. Water  
☐ 5. Other - specify \_\_\_\_\_
3. Treater, Storer, Disposer (at installation) Note: A permit is required for this activity, see instructions.
4. Hazardous Waste Fuel  
☐ a. Generator Marketing to Burner  
☐ b. Other Marketers  
☐ c. Boiler and/or Industrial Furnace  
☐ 1. Smelter Deferral  
☐ 2. Small Quantity Exemption  
 Indicate Type of Combustion Device(s)  
☐ 1. Utility Boiler  
☐ 2. Industrial Boiler  
☐ 3. Industrial Furnace
5. Underground Injection Control

1. Used Oil Recycling Marketer  
☐ a. Marketer Directs Shipment of Used Oil to Off-Specification Burner  
☐ b. Marketer Who First Claims the Used Oil Meets the Specifications
2. Used Oil Burner - Indicate Type(s) of Combustion Device  
☐ a. Utility Boiler  
☐ b. Industrial Boiler  
☐ c. Industrial Furnace
3. Used Oil Transporter - Indicate Type(s) of Combustion Device(s)  
☐ a. Transporter  
☐ b. Transfer Facility
4. Used Oil Processor/Re-refiner - Indicate Type(s) of Activity(ies)  
☐ a. Process  
☐ b. Re-refine

## IX. Description of Regulated Wastes (Use additional sheets if necessary)

## A. Characteristics of Nonlisted Hazardous Wastes. (Mark 'X' in the boxes corresponding to the characteristics of nonlisted hazardous wastes your installation handles; See 40 CFR Parts 261.20 - 261.24)

1. Ignitable (D001) ☒ 2. Corrosive (D002) ☒ 3. Reactive (D003) ☒ 4. Toxicity Characteristic (List specific EPA hazardous waste number(s) for the Toxicity characteristic contaminant(s))
- D 0 0 4 D 0 0 5 D 0 0 6 D 0 0 7

## B. Listed Hazardous Wastes. (See 40 CFR 261.31 - 33; See instructions if you need to list more than 12 waste codes.)

1	2	3	4	5	6
D 0 0 8	D 0 0 9	D 0 1 0	D 0 1 1	D 0 2 1	D 0 2 2
7	8	9	10	11	12
D 0 2 9	D 0 3 6	D 0 3 9	F 0 0 1	F 0 0 2	F 0 0 3

## C. Other Wastes. (State or other wastes requiring a handler to have an I.D. number; See instructions.)

1	2	3	4	5	6
N 8 9 9	I D 7 2	X 8 5 0	X 9 0 0	X 9 0 5	X 9 1 0

## X. Certification

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature

Name and Official Title (Type or print)

Date Signed

Charles W. Ruoff

Charles W. Ruoff, Facility Manager

9/7/99

## XI. Comments

Removed U198 (not an EPA waste code). Changed owner back to Atlantic Richfield Company ("ARCO")

since Lyondell leases property from ARCO. Full installation name is "Lyondell Chemical Worldwide, Inc."

Note: Mail completed form to the appropriate EPA Regional or State Office. (See Section III of the booklet for addresses.)

Please refer to Section V, Line-by-Line Instructions for Completing EPA Form 8700-12 before completing this form. The information requested here is required by law (Section 3010 of the Resource Conservation and Recovery Act).



# Notification of Regulated Waste Activity

United States Environmental Protection Agency

Date Received  
(For Official Use Only)

## I. Installation's EPA ID Number (Mark 'X' in the appropriate box)

☐

A. Initial Notification

☒

B. Subsequent Notification  
(Complete item C)

## C. Installation's EPA ID Number

P A D 0 4 6 5 3 8 2 1 1

## II. Name of Installation (Include company and specific site name)

L Y O N D E L L C H E M I C A L W O R L D W I D E

## III. Location of Installation (Physical address not P.O. Box or Route Number)

Street

3 8 0 1 W E S T C H E S T E R P I K E

Street (Continued)

City or Town

N E W T O W N S Q U A R E

State

Zip Code

P A 1 9 0 7 3 - 2 3 8 7

County Code

County Name

0 4 5 D E L A W A R E

## IV. Installation Mailing Address (See instructions)

Street or P.O. Box

S A M E

City or Town

State

Zip Code

## V. Installation Contact (Person to be contacted regarding waste activities at site)

Name (Last)

(First)

B A K E R

T O M

Job Title

Phone Number (Area Code and Number)

E N V S U P T

6 1 0 - 3 5 9 - 4 8 4 9

## VI. Installation Contact Address (See instructions)

A. Contact Address  
Location

Mailing

☒

B. Street or P.O. Box

City or Town

State

Zip Code

## VII. Ownership (See instructions)

### A. Name of Installation's Legal Owner

A T L A N T I C R I C H F I E L D C O M P A N Y

### Street, P.O. Box, or Route Number

5 1 5 S O U T H F L O W E R S T R E E T

City or Town

State

Zip Code

L O S A N G E L E S

C A

9 0 0 7 1 -

### Phone Number (Area Code and Number)

B. Land Type

C. Owner Type

D. Change of Owner Indicator

(Date Changed)

2 1 3 - 4 8 6 - 3 5 1 1

P

P

Yes

No

0 7 3 1 9 8



3801 West Chester Pike  
Newtown Square, Pennsylvania 19073-2387  
Telephone 610.359.2000

September 7, 1999

U.S. Environmental Protection Agency Region III  
RCRA Programs Branch (3WC22)  
1650 Arch St.  
Philadelphia, PA 19103-2029

Re: Subsequent Notification of Regulated Waste Activity  
Lyondell Chemical Worldwide, Inc.  
EPA ID No. PAD046538211

To Whom It May Concern:

Attached is a subsequent Notification of Regulated Waste Activity (EPA 8700-12) Form and Pennsylvania's Supplement to EPA Form 8700-12 for the hazardous waste activities at Lyondell Chemical Worldwide, Inc.'s Newtown Square facility. Waste codes typically generated by the facility have been updated, as well as the facility's contact person and legal owner. Please note that the subsequent notification we submitted in August 1998 mistakenly changed the site's legal owner from ARCO to Lyondell Chemical. Because Lyondell Chemical leases the facility from ARCO, the legal owner should be changed back to ARCO effective 7/31/98.

The Newtown Square facility is a Research & Development (R&D) facility and no commercial manufacturing operations are located at this site. Pilot plants and research laboratory operations are the primary source of the chemical wastes.

Should you have any questions about the information submitted in this report, please contact me at (610) 359-4849.

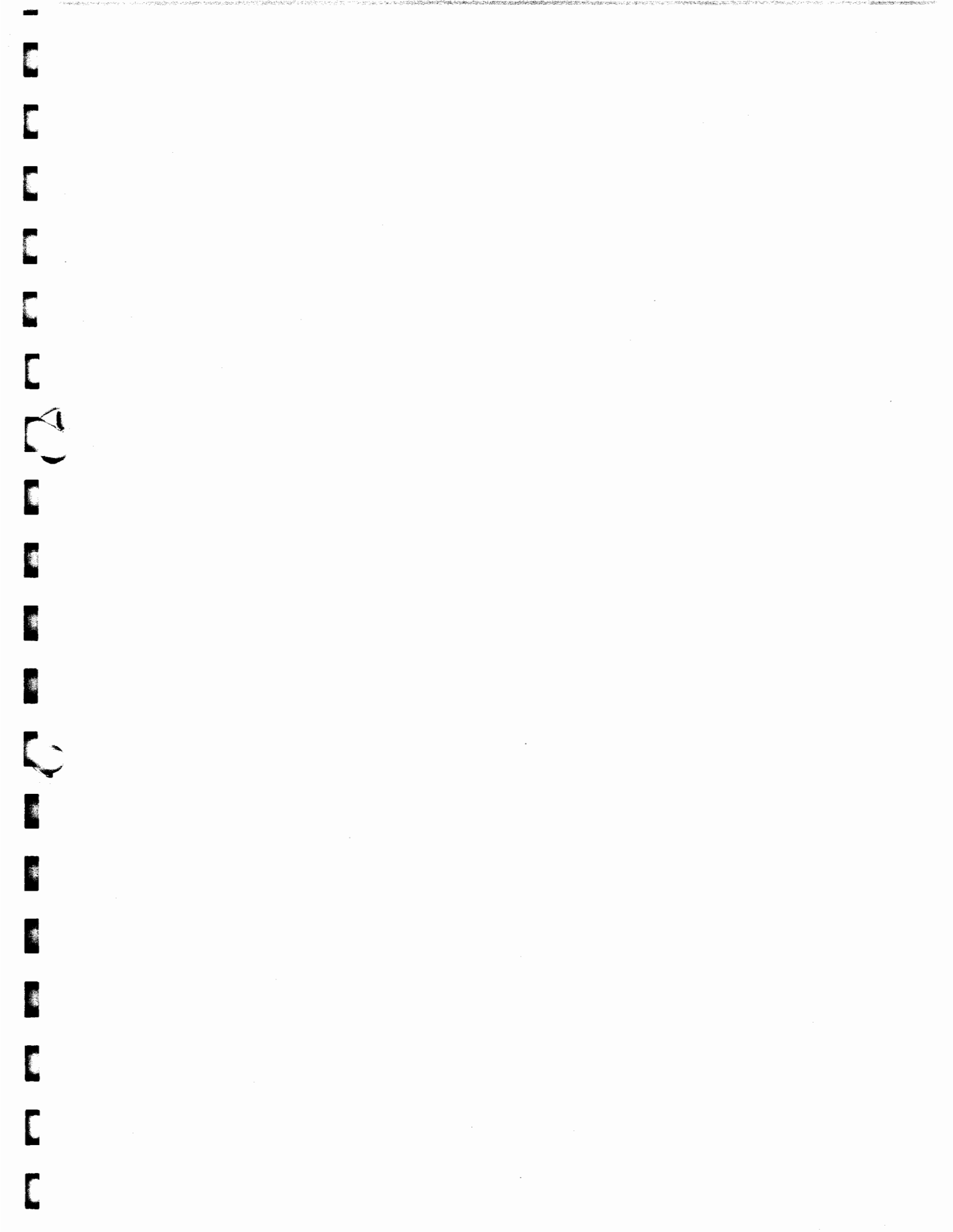
Sincerely,

Thomas P. Baker  
Environmental Superintendent

Enclosures

cc: Pennsylvania Department of Environmental Protection  
Southeast Region  
Waste Management Program  
Lee Park, Suite 6010  
555 North Lane  
Conshohocken, PA 19428-2233

File





3801 West Chester Pike  
Newtown Square, Pennsylvania 19073-2387  
Telephone 610.359.2000

October 26, 1999

Mr. Benjamin L. Williams  
Pennsylvania Dept. of Environmental Protection  
Southeast Regional Office  
Lee Park, Suite 6010  
555 North Lane  
Conshohocken, PA 19428

Re: PA DEP / EPA Hazardous Waste Inspection 9/8/99  
Lyondell Chemical Worldwide, Inc.  
EPA ID No. PAD046538211

Dear Mr. Williams:

As a follow-up to our phone conversation today, I would like to provide an update to my letter dated October 4, 1999 that discussed Lyondell's plans for repairing the hairline cracks found on the concrete base of our Main Drum Storage Pad and Pilot Plant Storage Pad (E Pad). The project team has recommended the application of a polyurea coating to the pads to seal the cracks and provide a long term impervious base for our hazardous waste storage area. We have selected a reputable vendor to perform the work, and they are currently scheduled to begin surface prep work on November 4, 1999. Weather permitting, the polyurea coating will be applied starting November 8, 1999, and is expected to be finished by the end of November.

If you have any questions concerning the repair work planned, please call me at (610) 359-4849.

Sincerely,

A handwritten signature in cursive script that reads "Thomas P. Baker".

Thomas P. Baker  
Environmental Superintendent

cc: Mr. George Houghton  
U.S. Environmental Protection Agency, Region III  
Environmental Science Center (3ES-32/E128)  
701 Mapes Road  
Fort Meade, MD 20755-5350

File



3801 West Chester Pike  
Newtown Square, Pennsylvania 19073-2387  
Telephone 610.359.2000

October 4, 1999

Mr. Benjamin L. Williams  
Pennsylvania Dept. of Environmental Protection  
Southeast Regional Office  
Lee Park, Suite 6010  
555 North Lane  
Conshohocken, PA 19428

Re: PA DEP / EPA Hazardous Waste Inspection 9/8/99  
Lyondell Chemical Worldwide, Inc.  
EPA ID No. PAD046538211

Dear Mr. Williams:

In response to the findings listed in your Hazardous Waste Inspection Report dated September 8, 1999 for our Newtown Square facility, immediate corrective actions were made to close the hazardous waste container found open in our lab and pilot plant, and to apply a more accurate label to the acetone/water container in the pilot plant. These actions were completed before the end of your inspection. Further corrective action following the inspection included the preparation of a summary packet on regulatory requirements related to "Use and Management of Containers", which key managers communicated site-wide with employees.

Concerning the hairline cracks found in the concrete base of the Main Drum Storage Pad, we have established a project team to evaluate appropriate corrective action, and the team has narrowed their recommendations to one of two repair options: 1) repair cracks individually using an appropriate sealant or 2) apply a sealant coating to not only fix the cracks but cover portions of the hazardous waste storage area. We are expeditiously working to determine material compatibility with available sealers, evaluate potential vendors who can perform the sealant application, evaluate other design issues and finally apply the sealant. Our plan is to have this work completed by the end of 1999, weather permitting. Many of the sealants we expect to be compatible with our various chemicals can not be applied at temperatures below 50 °F, and therefore we want to ensure the weather is conducive to proper application.

For the Pilot Plant Storage Pad (E Pad) hairline crack, we are reviewing corrective action options along with the evaluation of the Main Drum Storage Pad. One option we are also considering is terminating its use as a staging area.

Mr. Benjamin Williams

October 4, 1999

Page 2

If you have any questions concerning the repair work planned, please call me at (610) 359-4849.  
We will keep you informed of our progress.

Sincerely,

A handwritten signature in cursive script that reads "Thomas P. Baker". The signature is fluid and stylized, with the first and last names being more prominent than the middle initial.

Thomas P. Baker  
Environmental Superintendent

cc: File



## ATTACHMENT B

### GENERATOR RESPONSIBILITIES

**IT IS THE RESPONSIBILITY OF ALL WASTE GENERATORS TO MANAGE AND PREPARE ALL WASTES FOR DISPOSAL IN ACCORDANCE WITH THE REQUIREMENTS LISTED IN THIS POLICY.**

#### 1. Minimize waste generation:

- a. Design projects to reduce the amount of waste generated initially
- b. Design projects to allow recycling of wastes
- c. Order only those chemicals quantities needed to complete the project
- d. Borrow/share chemicals whenever possible

#### 2. Identify and segregate wastes

- a. Use discrete containers for each waste stream
  - (1) acids
    - (a) organic acids
    - (b) mineral acids
  - (2) bases
    - (a) organic bases
    - (b) inorganic bases
  - (3) oxidizers
  - (4) aqueous (>90% water)
  - (5) liquid mercury and mercury solutions
  - (6) mercury contaminated solids
  - (7) chlorinated solvents
  - (8) organic liquids
  - (9) organic solids
  - (10) isocyanates
  - (11) reactives requiring refrigeration
  - (12) metals
  - (13) syringes and needles
  - (14) aerosol cans
  - (15) cylinders
  - (16) contaminated trash
- b. Segregate incompatible wastes in containers and secondary containments
- c. Unidentified wastes will be returned to the generator for identification

#### 3. Select the appropriate waste container

- a. Choose a container that is compatible with the waste
  - (1) poly or poly-coated glass for acids and bases
- b. Choose a container that is appropriately sized for the waste quantity
  - (1) Use a container which could be filled in approximately six months
  - (2) Use 35 gallon bags for contaminated trash
  - (3) Use a metal can with a bung opening for disposal of plastic and metal syringes and needles
  - (4) Use DOT approved containers for any waste container  $\geq 5$  gallons
  - (5) Use a 1 gallon plastic jug or 1-5 gallon metal pail with a plastic liner for analytical samples less than 4 ounces
- c. Choose a container that is in good condition, without dents or ruptures
  - (1) if a container is damaged during waste accumulation, it must be either
    - (a) transferred to another container or

(b) over packed in a larger container

- d. Remove or mark out any original labels from the container if the waste is different from the material first contained in it

#### 4. Label the waste container prior to generating the waste:

- a. Place a waste tag on the container before the waste is generated
    - (1) Using a waste tag obtained from the Storeroom only
    - (2) Using a permanent marker or ball point pen to complete the tag
  - b. Identify all components > 1% in concentration, unless the component is on the TCLP list
  - c. Identify all TCLP components, regardless of concentration
  - d. Complete the label with
    - (1) Name and location of generator
    - (2) Cost Center and Project Number
    - (3) Waste Components
    - (4) Total Quantity
    - (5) Handling Hazards
  - e. Use an Empty label for any cylinder which has been emptied
- #### 5. Keep the waste container in satellite accumulations areas prior to placing out for pickup
- a. In a laboratory hood or other ventilated area
  - b. In secondary containment
  - c. Closed unless waste is being added to it
  - d. With 10% head space in the container for thermal expansion
- #### 6. Date the waste containers when
- a. An individual container is full or
  - b. The total waste quantity in the area exceeds
    - (1) 1 quart of P list waste
    - (2) 55 gallons non P list waste

#### 7. Place the waste container out for pickup and transfer to an accumulation area

- a. On the next pickup day after dating the container
  - (1) Monday, Wednesday and Friday for laboratory areas
  - (2) Tuesday and Thursday for E Hazardous Waste Pad
- b. In a secondary containment unit
- c. Notify the EH&S for a special pickup of any waste requiring refrigeration

#### 8. Manage empty containers

- a. Ensure they meet the definition of empty
- b. Remove or marking out any labels on the containers
- c. Place glass into the 30 gallon fiber bins
- d. Pickup of glass is on Tuesday and Thursday
- e. Pickup of empty drums is periodic as they are generated
- f. Isocyanate containers must be neutralized before they are considered empty

#### 9. Obtain design engineering or maintenance services as needed for upkeep of waste areas

#### 10. Attend an annual training session on site waste handling



8

9

## Instructions for Filling Out the Hazardous Waste Label

In order to be in compliance with the Resource Conservation and Recovery Act (RCRA) and its Hazardous Waste Regulations, it is VITAL that hazardous wastes be accurately described when labeled.

The following examples should facilitate the filling out of this label:

**LAB.** - Where waste is generated.

**TEL EXT.** - Generator's telephone extension.

**CONTACT NAME** - Person generating waste.

**COMPONENTS IN WASTE** - Be specific, list as many as known, e.g.: nitrobenzene; nitrobenzene/EPC; sulfonic acid/water (approx. 30%); ethanol/selenium (trace); MTBE/MeOH (approx. 4%)/TBA (approx. 1%).

**QUANTITY** - How much? e.g.; 1 gallon, 1 pint, 10 pounds, 2 drums, 5-gallon pail of 5 oz sample bottles, etc.

**DATE** - When waste was made.

**CHECK LIST** - Most appropriate.



### HAZARDOUS WASTE DISPOSAL TAG

LAB.

TEL. EXT.

CONTACT NAME

Co. code

Account

Sub acct.

Cost center

COMPONENTS IN WASTE

QUANTITY

DATE

#### HANDLING HAZARDS : CHECK AS MANY AS APPLICABLE:

- ☐ ACIDIC
- ☐ CAUSTIC
- ☐ PYROPHORIC
- ☐ OXIDIZER
- ☐ POISON
- ☐ LACHRYMATOR
- ☐ SHOCK SENSITIVE
- ☐ SUSPECT CARCINOGEN
- ☐ FLAMMABLE
- OTHER \_\_\_\_\_

ARCO  
1995-F  
(11/98)



8

9

# HAZARDOUS WASTE

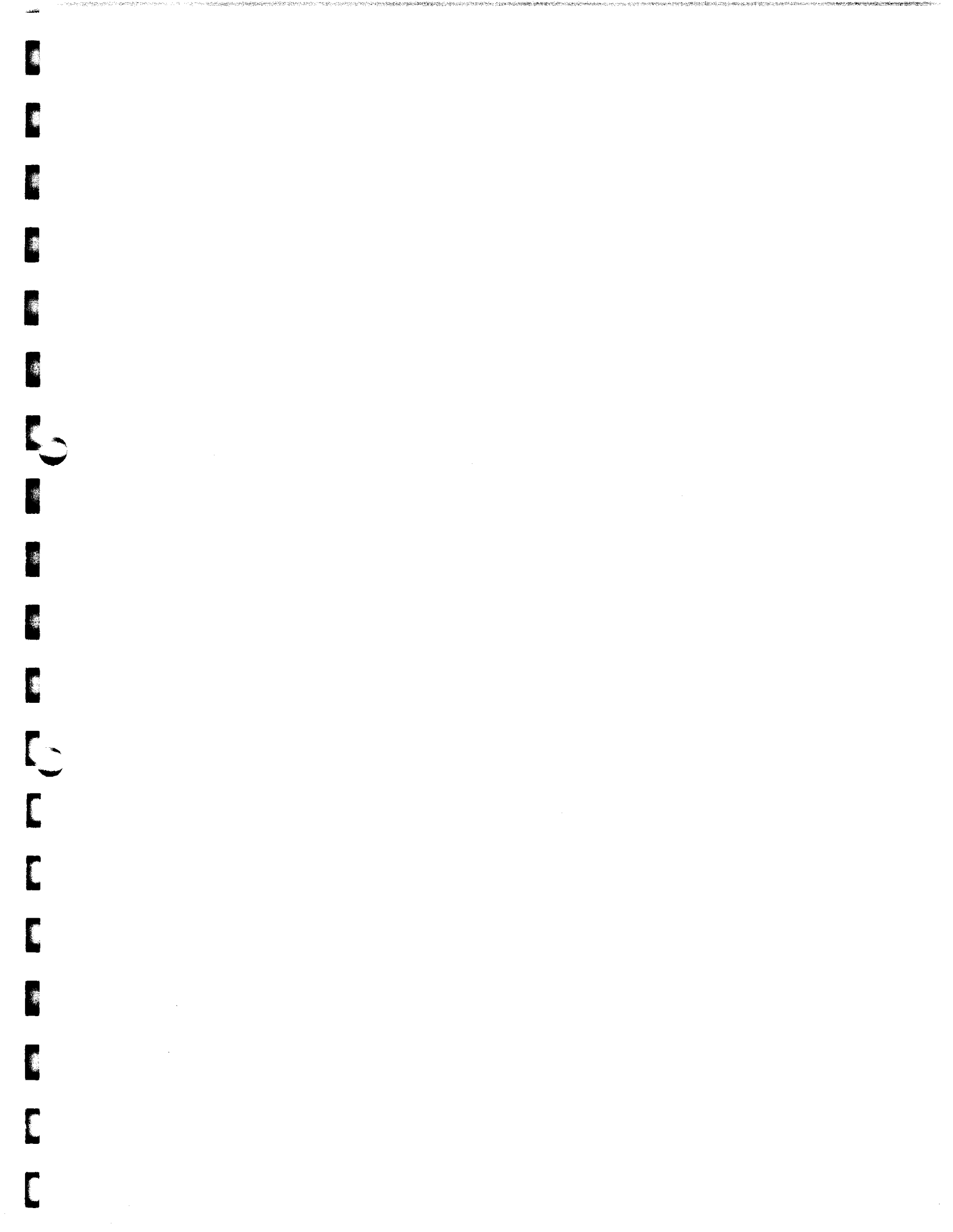
Waste Components	%	Circle Hazards
		Acidic pH _____
		Caustic pH _____
		Pyrophoric
		Oxidizer
		Poison
		Lachrymator
		Flammable
		Shock Sensitive
		Suspect Carcinogen

Contact name			Phone #		
Co. code	Account	Sub acct.	Cost Center		

ARCC-2810-A (6-91)

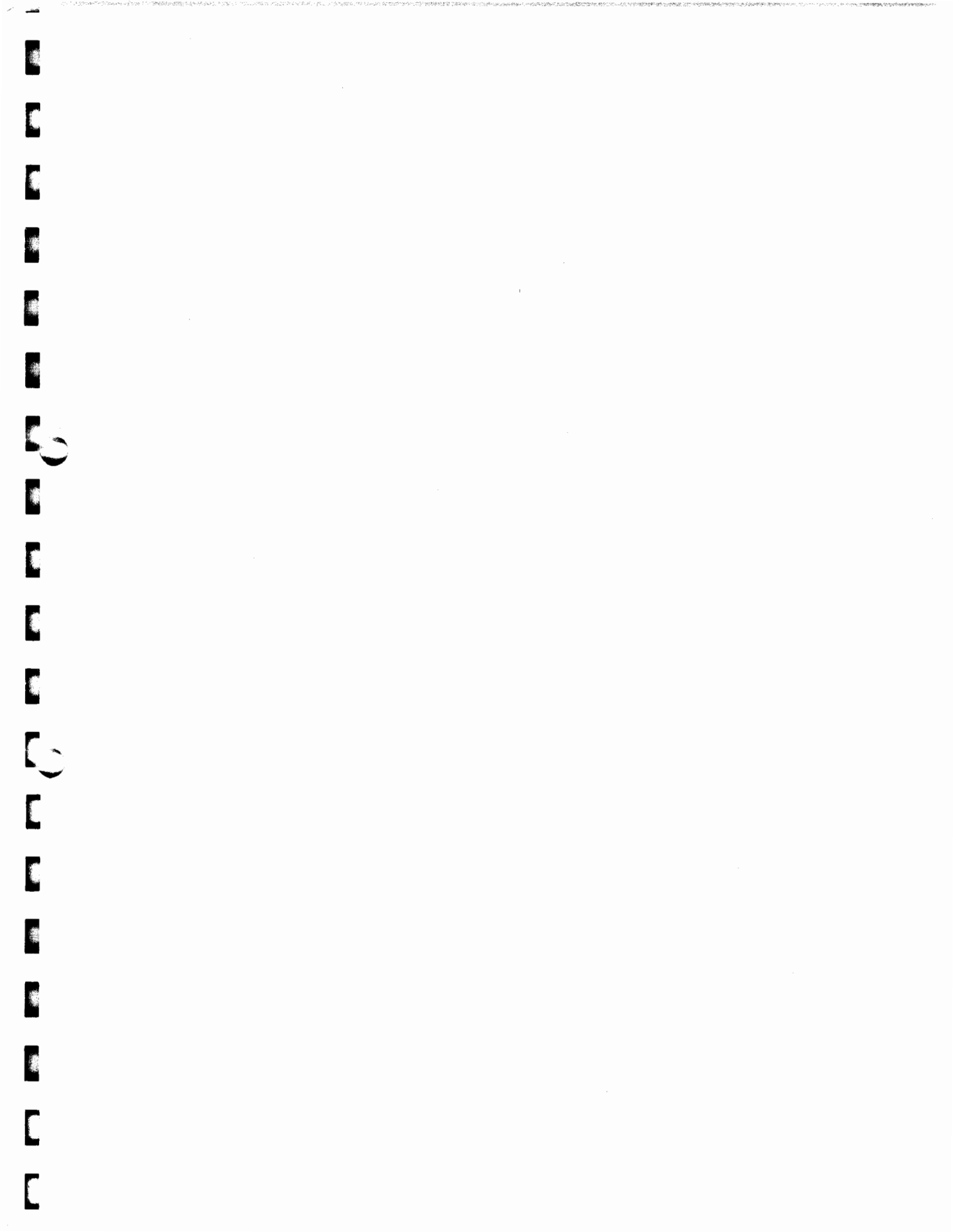
Date First  
Waste Added \_\_\_\_\_

Date Finished  
Filling \_\_\_\_\_



**Main Drum Pad**  
**Hazardous Waste Accumulation Area Weekly Inspection Report**  
This Inspection is required by state and federal regulations (40 CFR, Part 265.174)

Yes	No	Inspection Item	Corrective Action Taken
	✓	1. Any evidence of leaking containers?	
	✓	2. Any evidence of deterioration of containers caused by corrosion?	
	✓	3. Any evidence of deterioration of containers caused by improper filling?	
	✓	4. Any deformed containers that could not be shipped by DOT regulation?	
	✓	5. Any containers without a clearly visible hazardous waste label?	
	✓	6. Any containers that are not properly labeled as to contents?	
	✓	7. Any containers that do not have a "start accumulation date"?	
	✓	8. Any containers that are over the 90 day accumulation limit?	
	✓	9. Any strange smells or odors?	
	✓	10. Are there signs of cracking in the cement pad that threatens the integrity?	
✓		11. Are all containers closed and all bungs tight?	
✓		12. Are incompatible materials properly segregated?	
✓		13. Is spill containment equipment in place?	
✓		14. Is safety equipment in place?	
✓		15. Are signs in place designating the hazardous waste accumulation area?	
✓		16. Is the containment sump valve closed?	
Additional Comments (designate inspection item number)			
Date:	Time:	Signatures: (Inspector & Environmental Superintendent)	
<b>Note: Any deficiencies noted must be brought to the attention of the Environmental Superintendent and must be immediately corrected.</b>			



**ARCO Chemical Company**

3801 West Chester Pike  
Newtown Square, Pennsylvania 19073-2387  
Telephone 610 359 2000



February 20, 1998

Pennsylvania Department of Environmental Protection  
Bureau of Land Recycling and Waste Management  
400 Market Street  
13th Floor  
Harrisburg, PA 17105-2301

Subject: **1997 Biennial Report**  
**ARCO Chemical Company**  
**PAD046538211**

Attn. Waste Management Section:

Enclosed is the 1997 Biennial Report for the ARCO Chemical Company facility located in Newtown Square, PA. This facility is the primary Research and Development Center for the company. If you have any questions concerning the report, please do not hesitate to contact me at 610-359-4604.

Very truly yours,

Rita Marie Sammons  
Environmental Superintendent

cc: C. Ruoff  
S. Hennings

Enclosure

● **SENDER:** Complete items 1 and 2 when additional services are desired, and complete items 3 and 4.  
Put your address in the "RETURN TO" space on the reverse side. Failure to do this will prevent this card from being returned to you. The return receipt fee will provide you the name of the person delivered to and the date of delivery. For additional fees the following services are available. Consult postmaster for fees and check box(es) for additional service(s) requested.

1. ☐ Show to whom delivered, date, and addressee's address. 2. ☐ Restricted Delivery.

3. Article Addressed to:

PA DEP  
Bureau of Land Recycling and  
Waste Management  
PO Box 8550  
400 Market Street, 13th Floor  
Harrisburg, PA 17105-2301

4. Article Number

Type of Service:

☐ Registered ☐ Insured  
☒ Certified ☐ COD  
☐ Express Mail

Always obtain signature of addressee or agent and **DATE DELIVERED**.

5. Signature — Addressee

X: *Charles F. ...*

6. Signature — Agent

X: *[Signature]*

7. Date of Delivery

*FEB 23 1998*

8. Addressee's Address ONLY if requested and fee paid.

PS Form 3811, Feb. 1986

DOMESTIC RETURN RECEIPT

BEFORE COPYING FORM, ATTACH SITE IDENTIFICATION LABEL OR ENTER:

SITE NAME: ARCO Chemical Company  
Newtown Square R&D Facility

EPA ID NO: PA D 0 4 6 5 3 8 2 1 1



**U.S. ENVIRONMENTAL  
PROTECTION AGENCY**

1997 Hazardous Waste Report

**FORM  
IC**

**IDENTIFICATION AND  
CERTIFICATION**

Instructions: Please see the detailed instructions beginning on page 7 of the instructions and forms booklet before completing this form. In addition, the page number for instructions specific to each section is provided below.

<b>Sec. I</b>	Site name and location address. Check the box <input type="checkbox"/> in items A, B, C, E, F, G, and H if same as label; if different, enter corrections. If label is absent, enter information. Instructions page 7.		
A. EPA ID No. Same as label <input type="checkbox"/> or → <u>PA</u> <u>D</u> <u>0</u> <u>4</u> <u>6</u> <u>5</u> <u>3</u> <u>8</u> <u>2</u> <u>1</u> <u>1</u>		B. County Same as label <input type="checkbox"/> or → <u>Delaware</u>	
C. Site/company name Same as label <input type="checkbox"/> or → <u>ARCO Chemical Company</u>		D. Has the site name associated with this EPA ID changed since 1995? <input type="checkbox"/> 1 Yes <input checked="" type="checkbox"/> 2 No	
E. Street name and number. If not applicable, enter industrial park, building name, or other physical location description. Same as label <input type="checkbox"/> or → <u>3801 West Chester Pike</u>			
F. City, town, village Same as label <input type="checkbox"/> or → <u>Newtown Square</u>		G. State Same as label <input type="checkbox"/> or → <u>PA</u>	H. Zip Code Same as label <input type="checkbox"/> or → <u>19</u> <u>0</u> <u>7</u> <u>3</u> - <u>    </u> <u>    </u> <u>    </u>

<b>Sec. II</b>	Mailing address of site. Instructions page 7.		
A. Is the mailing address the same as the location address? <input checked="" type="checkbox"/> 1 Yes (SKIP TO SEC. III) <input type="checkbox"/> 2 No (CONTINUE TO BOX B)			
B. Number and street name of mailing address			
C. City, town, village		D. State <u>    </u> <u>    </u>	E. Zip Code <u>    </u> <u>    </u> <u>    </u> <u>    </u> - <u>    </u> <u>    </u> <u>    </u>

<b>Sec. III</b>	Name, title, and telephone number of the person who should be contacted if questions arise regarding this report. Instructions page 7.		
A. Last Name <u>Sammons</u>		First name <u>Rita</u>	M.I. <u>M.</u>
B. Title <u>Env. Supt.</u>		C. Telephone Number <u>6</u> <u>1</u> <u>0</u> <u>3</u> <u>5</u> <u>9</u> - <u>4</u> <u>6</u> <u>0</u> <u>4</u> Extension <u>    </u> <u>    </u> <u>    </u>	

<b>Sec. IV</b>	"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties under Section 3008 of the Resource Conservation and Recovery Act for submitting false information, including the possibility of fine and imprisonment for knowing violations." Instructions page 8.		
A. Last Name <u>Ruoff</u>		First name <u>Charles</u>	M.I. <u>W.</u>
B. Title <u>Facility Manager</u>		C. Signature <u>Charles W. Ruoff</u>	
D. Date of signature <u>02</u> <u>20</u> <u>98</u> Month Day Year			

Over →

BEFORE COPYING FORM, ATTACH SITE IDENTIFICATION LABEL OR ENTER:

SITE NAME: ARCO Chemical Company  
Newtown Square, PA 19073

EPA ID NO: PAD 046 538 211

US ENVIRONMENTAL  
PROTECTION AGENCY

1997 HAZARDOUS WASTE REPORT

FORM  
GM

WASTE GENERATION  
AND MANAGEMENT

INSTRUCTIONS: Please see the detailed instructions beginning on Page 11 of the instruction and forms booklet before completing this form. In addition, the page number for instructions specific to each box is provided in parentheses.

Sec. I	A. Waste Description - (page 12) Ignitable spent solvents from cleaning of pilot plant and laboratory units containing a mixture of acetone, isopropanol, toluene, styrene, hexane and water				
B. EPA hazardous waste code (page 12)			C. State hazardous waste code (page 13)		
D001 F003 F005 D006 D008					
D. SIC Code (page 13)	E. Origin Code (page 13)	F. Source Code (page 14)	G. Point of Measurement (p. 14)	H. Form code (page 14)	RCRA -radioactive mixed (page 14)
2869	1 System Type	A09	4	B203	2

Sec. II	A. Quantity generated in 1997 (page 15)	B. UOM (page 15)	C. Did this site do any of the following to this waste: treat on-site, dispose on site, recycle on site, or discharge to a sewer/POTW? (page 15)		
	686538.6	1	<input type="checkbox"/> Yes (CONTINUE TO ON-SITE PROCESS SYSTEM 1) <input checked="" type="checkbox"/> No (SKIP TO SEC. III)		
On-site Process System 1		On-site Process System 2			
On-site process system type (page 16)		Quantity treated, disposed, or recycled on site in 1997 (page 16)		On-site process system type (page 16)	
M				M	

Sec. III	A. Was any of this waste shipped off-site in 1997 for treatment, disposal or recycling? (page 17)			
	<input checked="" type="checkbox"/> 1 Yes (CONTINUE TO BOX B) <input type="checkbox"/> 2 No (FORM IS COMPLETE)			
Site 1	B. EPA ID No. of facility waste was shipped to (page 17)	C. System type shipped to (p. 17)	D. Off-site availability code (page 17)	E. Total quantity shipped in 1997 (page 17)
	NJD002182897	M061	1	546240.2
Site 2	B. EPA ID No. of facility waste was shipped to (page 17)	C. System type shipped to (p. 17)	D. Off-site availability code (page 17)	E. Total quantity shipped in 1997 (page 17)
	OHD005048947	M061	1	70313.6
Site 3	B. EPA ID No. of facility waste was shipped to (page 17)	C. System type shipped to (p. 17)	D. Off-site availability code (page 17)	E. Total quantity shipped in 1997 (page 17)
	MDD980555189	M061	1	34127.3

## Comments:

Sec. I, D - The ARCO Chemical Company Newtown Square site is a Research and Development Facility.  
No Commercial Manufacturing is conducted at this site.

BEFORE COPYING FORM, ATTACH SITE IDENTIFICATION LABEL OR ENTER:

SITE NAME: ARCO Chemical Company  
Newtown Square, PA 19073

EPA ID NO: PAD 046 538 211

US ENVIRONMENTAL  
PROTECTION AGENCY

1997 HAZARDOUS WASTE REPORT

FORM  
GM

WASTE GENERATION  
AND MANAGEMENT

INSTRUCTIONS: Please see the detailed instructions beginning on Page 11 of the instruction and forms booklet before completing this form. In addition, the page number for instructions specific to each box is provided in parentheses.

Sec. I		A. Waste Description - (page 12)				Chemical containers known as "Labpack" generated in pilot units and laboratories that contain acute hazardous wastes such as allyl alcohol, various isocyanates and cyanides, and several oxidizers	
B. EPA hazardous waste code (page 12)		LABP		C. State hazardous waste code (page 13)			
D. SIC Code (page 13)	E. Origin Code (page 13)	1	F. Source Code (page 14)	G. Point of Measurement (p. 14)	H. Form code (page 14)	RCRA -radioactive mixed (page 14)	
2869	System Type		A94	4	B004	2	

Sec. II		A. Quantity generated in 1997 (page 15)		B. UOM (page 15)		C. Did this site do any of the following to this waste: treat on-site, dispose on site, recycle on site, or discharge to a sewer/POTW? (page 15)	
		464.0		1		<input type="checkbox"/> Yes (CONTINUE TO ON-SITE PROCESS SYSTEM 1) <input checked="" type="checkbox"/> No (SKIP TO SEC. III)	
On-site Process System 1				On-site Process System 2			
On-site process system type (page 16)		Quantity treated, disposed, or recycled on site in 1997 (page 16)		On-site process system type (page 16)		Quantity treated, disposed, or recycled on site in 1997 (page 16)	
M				M			

Sec. III		A. Was any of this waste shipped off-site in 1997 for treatment, disposal or recycling? (page 17)			
		<input checked="" type="checkbox"/> 1 Yes (CONTINUE TO BOX B) <input type="checkbox"/> 2 No (FORM IS COMPLETE)			
Site 1	B. EPA ID No. of facility waste was shipped to (page 17)	C. System type shipped to (p. 17)	D. Off-site availability code (page 17)	E. Total quantity shipped in 1997 (page 17)	
	NJD980536593	M141	1	404.0	
Site 2	B. EPA ID No. of facility waste was shipped to (page 17)	C. System type shipped to (p. 17)	D. Off-site availability code (page 17)	E. Total quantity shipped in 1997 (page 17)	
Site 3	B. EPA ID No. of facility waste was shipped to (page 17)	C. System type shipped to (p. 17)	D. Off-site availability code (page 17)	E. Total quantity shipped in 1997 (page 17)	

## Comments:

Sec. I, D - The ARCO Chemical Company Newtown Square site is a Research and Development Facility.  
No Commercial Manufacturing is conducted at this site.

BEFORE COPYING FORM, ATTACH SITE IDENTIFICATION LABEL OR ENTER:

SITE NAME: ARCO Chemical Company  
Newtown Square, PA 19073

EPA ID NO: PAD 046 538 211

US ENVIRONMENTAL  
PROTECTION AGENCY

1997 HAZARDOUS WASTE REPORT

FORM  
GM

WASTE GENERATION  
AND MANAGEMENT

INSTRUCTIONS: Please see the detailed instructions beginning on Page 11 of the instruction and forms booklet before completing this form. In addition, the page number for instructions specific to each box is provided in parentheses.

Sec. I	A. Waste Description - (page 12) Chemical containers known as "Labpack" generated in pilot units and laboratories that contain a variety of hazardous wastes including solvents, acids, bases, isocyanates, organic peroxides and mercury				
B. EPA hazardous waste code (page 12)			C. State hazardous waste code (page 13)		
LABP					
D. SIC Code (page 13)	E. Origin Code (page 13)	F. Source Code (page 14)	G. Point of Measurement (p. 14)	H. Form code (page 14)	RCRA -radioactive mixed (page 14)
2869	1 System Type	A94	4	B003	2

Sec. II	A. Quantity generated in 1997 (page 15)	B. UOM (page 15)	C. Did this site do any of the following to this waste: treat on-site, dispose on site, recycle on site, or discharge to a sewer/POTW? (page 15)		
	7530.0	1 Density 1 lbs/gal 2 sg	<input type="checkbox"/> Yes (CONTINUE TO ON-SITE PROCESS SYSTEM 1) <input checked="" type="checkbox"/> No (SKIP TO SEC. III)		
On-site Process System 1			On-site Process System 2		
On-site process system type Quantity treated, disposed, or recycled on site (page 16)			On-site process system type Quantity treated, disposed, or recycled on site (page 16)		
M			M		

Sec. III	A. Was any of this waste shipped off-site in 1997 for treatment, disposal or recycling? (page 17)				
<input checked="" type="checkbox"/> 1 Yes (CONTINUE TO BOX B) <input type="checkbox"/> 2 No (FORM IS COMPLETE)					
Site 1	B. EPA ID No. of facility waste was shipped to (page 17)	C. System type shipped to (p. 17)	D. Off-site availability code (page 17)	E. Total quantity shipped in 1997 (page 17)	
	NJD980536593	M141	1	7120.0	
Site 2	B. EPA ID No. of facility waste was shipped to (page 17)	C. System type shipped to (p. 17)	D. Off-site availability code (page 17)	E. Total quantity shipped in 1997 (page 17)	
Site 3	B. EPA ID No. of facility waste was shipped to (page 17)	C. System type shipped to (p. 17)	D. Off-site availability code (page 17)	E. Total quantity shipped in 1997 (page 17)	

## Comments:

Sec. I, D - The ARCO Chemical Company Newtown Square site is a Research and Development Facility.  
No Commercial Manufacturing is conducted at this site.

BEFORE COPYING FORM, ATTACH SITE IDENTIFICATION LABEL OR ENTER:

SITE NAME: ARCO Chemical Company  
Newtown Square, PA 19073

EPA ID NO: PAD 046 538 211

US ENVIRONMENTAL  
PROTECTION AGENCY

1997 HAZARDOUS WASTE REPORT

FORM  
GM

WASTE GENERATION  
AND MANAGEMENT

INSTRUCTIONS: Please see the detailed instructions beginning on Page 11 of the instruction and forms booklet before completing this form. In addition, the page number for instructions specific to each box is provided in parentheses.

Sec. I	A. Waste Description - (page 12) Vials, jars and bottles from laboratory operations such as physical and chemical analysis containing a variety of organic chemicals including allyl alcohol, acetone, and polyether polyol				
B. EPA hazardous waste code (page 12)			C. State hazardous waste code (page 13)		
LABP					
D. SIC Code (page 13)	E. Origin Code (page 13)	F. Source Code (page 14)	G. Point of Measurement (p. 14)	H. Form code (page 14)	RCRA -radioactive mixed (page 14)
2869	1 System Type	A94	4	B003	2

Sec. II	A. Quantity generated in 1997 (page 15)		B. UOM (page 15)		C. Did this site do any of the following to this waste: treat on-site, dispose on site, recycle on site, or discharge to a sewer/POTW? (page 15)	
13891.0		1		<input type="checkbox"/> Yes (CONTINUE TO ON-SITE PROCESS SYSTEM 1) <input checked="" type="checkbox"/> No (SKIP TO SEC. III)		
Density ___ 1 lbs/gal ___ 2 sg						
On-site Process System 1			On-site Process System 2			
On-site process system type (page 16)			On-site process system type (page 16)			
Quantity treated, disposed, or recycled on site in 1997 (page 16)			Quantity treated, disposed, or recycled on site in 1997 (page 16)			
M			M			

Sec. III	A. Was any of this waste shipped off-site in 1997 for treatment, disposal or recycling? (page 17)			
<input checked="" type="checkbox"/> 1 Yes (CONTINUE TO BOX B) <input type="checkbox"/> 2 No (FORM IS COMPLETE)				
Site 1	B. EPA ID No. of facility waste was shipped to (page 17)	C. System type shipped to (p. 17)	D. Off-site availability code (page 17)	E. Total quantity shipped in 1997 (page 17)
	NJD980536593	M141	1	12691.0
Site 2	B. EPA ID No. of facility waste was shipped to (page 17)	C. System type shipped to (p. 17)	D. Off-site availability code (page 17)	E. Total quantity shipped in 1997 (page 17)
Site 3	B. EPA ID No. of facility waste was shipped to (page 17)	C. System type shipped to (p. 17)	D. Off-site availability code (page 17)	E. Total quantity shipped in 1997 (page 17)

## Comments:

Sec. I, D - The ARCO Chemical Company Newtown Square site is a Research and Development Facility.  
No Commercial Manufacturing is conducted at this site.

EPA ID NO: PAD 046 538 211

1997 HAZARDOUS WASTE REPORT

FORM  
GM

## WASTE GENERATION AND MANAGEMENT

**INSTRUCTIONS:** Please see the detailed instructions beginning on Page 11 of the instruction and forms booklet before completing this form. In addition, the page number for instructions specific to each box is provided in parentheses.

Sec. I	A. Waste Description - (page 12)		Vials from laboratory operations for COD analyses containing sulfuric acid, water, mercuric sulfate, silver sulfate and chromic acid			
	B. EPA hazardous waste code age 12)      D002      D007      D009      D011			C. State hazardous waste code (page 13)		
D. SIC Code (page 13) 2869	E. Origin Code      1 (page 13)      System Type	F. Source Code (page 14) A94	G. Point of Measurement (p. 14) 4	H. Form code (page 14) B003	RCRA -radioactive mixed (page 14) 2	

Sec. II	A. Quantity generated in 1997 (page 15)	B. UOM (page 15)	C. Did this site do any of the following to this waste: treat on-site, dispose on site, recycle on site, or discharge to a sewer/POTW? (page 15)
	150.0	1	<input type="checkbox"/> Yes (CONTINUE TO ON-SITE PROCESS SYSTEM 1) <input checked="" type="checkbox"/> No (SKIP TO SEC. III)
On-site Process System 1			On-site Process System 2
On-site process system type (page 16)	Quantity treated, disposed, or recycled on site in 1997 (page 16)		On-site process system type (page 16)
M			M

Sec. III	A. Was any of this waste shipped off-site in 1997 for treatment, disposal or recycling? (page 17) <div style="display: flex; justify-content: space-between;"> <span><u>  X  </u> 1 Yes (CONTINUE TO BOX B)</span> <span><u>      </u> 2 No (FORM IS COMPLETE)</span> </div>			
Site 1	B. EPA ID No. of facility waste was shipped to (page 17)  <div style="text-align: right;">NJD980536593</div>	C. System type shipped to (p. 17)  <div style="text-align: right;">M141</div>	D. Off-site availability code (page 17)  <div style="text-align: right;">1</div>	E. Total quantity shipped in 1997 (page 17)  <div style="text-align: right;">150.0</div>
Site 2	B. EPA ID No. of facility waste was shipped to (page 17)	C. System type shipped to (p. 17)	D. Off-site availability code (page 17)	E. Total quantity shipped in 1997 (page 17)
Site 3	B. EPA ID No. of facility waste was shipped to (page 17)	C. System type shipped to (p. 17)	D. Off-site availability code (page 17)	E. Total quantity shipped in 1997 (page 17)

Comments:

**Sec. I, D - The ARCO Chemical Company Newtown Square site is a Research and Development Facility. No Commercial Manufacturing is conducted at this site.**

BEFORE COPYING FORM, ATTACH SITE IDENTIFICATION LABEL OR ENTER:

SITE NAME: ARCO Chemical Company  
Newtown Square, PA 19073

EPA ID NO: PAD 046 538 211

US ENVIRONMENTAL  
PROTECTION AGENCY

1997 HAZARDOUS WASTE REPORT

FORM  
GM

WASTE GENERATION  
AND MANAGEMENT

INSTRUCTIONS: Please see the detailed instructions beginning on Page 11 of the instruction and forms booklet before completing this form. In addition, the page number for instructions specific to each box is provided in parentheses.

Sec. I	A. Waste Description - (page 12) Cylinders used in pilot plants and laboratories containing a variety of organic chemicals including methane, ethane, butylene, isobutylene, ethylene and aluminum alkyls mixed in organics				
B. EPA hazardous waste code (page 12) D001 D003 U135			C. State hazardous waste code (page 13)		
D. SIC Code (page 13) 2869	E. Origin Code (page 13) System Type 1	F. Source Code (page 14) A94	G. Point of Measurement (p. 14) 1	H. Form code (page 14) B801	RCRA -radioactive mixed (page 14) 2

Sec. II	A. Quantity generated in 1997 (page 15) 1037.0		B. UOM (page 15) 1 Density 1 lbs/gal 2 sg	C. Did this site do any of the following to this waste: treat on-site, dispose on site, recycle on site, or discharge to a sewer/POTW? (page 15) Yes (CONTINUE TO ON-SITE PROCESS SYSTEM 1) X No (SKIP TO SEC. III)	
On-site Process System 1 On-site process system type Quantity treated, disposed, or recycled on site (page 16) in 1997 (page 16) M			On-site Process System 2 On-site process system type Quantity treated, disposed, or recycled on site (page 16) in 1997 (page 16) M		

Sec. III	A. Was any of this waste shipped off-site in 1997 for treatment, disposal or recycling? (page 17) X 1 Yes (CONTINUE TO BOX B) 2 No (FORM IS COMPLETE)				
Site 1	B. EPA ID No. of facility waste was shipped to (page 17) TXD055141378	C. System type shipped to (p. 17) M044	D. Off-site availability code (page 17) 1	E. Total quantity shipped in 1997 (page 17) 1037.0	
Site 2	B. EPA ID No. of facility waste was shipped to (page 17)	C. System type shipped to (p. 17)	D. Off-site availability code (page 17)	E. Total quantity shipped in 1997 (page 17)	
Site 3	B. EPA ID No. of facility waste was shipped to (page 17)	C. System type shipped to (p. 17)	D. Off-site availability code (page 17)	E. Total quantity shipped in 1997 (page 17)	

## Comments:

Sec. I, D - The ARCO Chemical Company Newtown Square site is a Research and Development Facility.  
No Commercial Manufacturing is conducted at this site.

BEFORE COPYING FORM. ATTACH SITE IDENTIFICATION LABEL OR ENTER:

SITE NAME: ARCO Chemical Company  
Newtown Square, PA 19073

EPA ID NO: PAD 046 538 211

US ENVIRONMENTAL  
PROTECTION AGENCY

1997 HAZARDOUS WASTE REPORT

FORM  
GM

WASTE GENERATION  
AND MANAGEMENT

INSTRUCTIONS: Please see the detailed instructions beginning on Page 11 of the instruction and forms booklet before completing this form. In addition, the page number for instructions specific to each box is provided in parentheses.

Sec. I	A. Waste Description - (page 12) Cylinders used in pilot plants and laboratories containing a variety of inorganic chemicals including oxygen, hydrogen chloride and nitrogen dioxide				
3. EPA hazardous waste code (page 12) D001 D002 P078			C. State hazardous waste code (page 13)		
D. SIC Code (page 13) 2869	E. Origin Code (page 13) System Type 1	F. Source Code (page 14) A94	G. Point of Measurement (p. 14) 1	H. Form code (page 14) B701	RCRA -radioactive mixed (page 14) 2

Sec. II	A. Quantity generated in 1997 (page 15) 136.0	B. UOM (page 15) 1 Density 1 lbs/gal 2 sg	C. Did this site do any of the following to this waste: treat on-site, dispose on site, recycle on site, or discharge to a sewer/POTW? (page 15) ___ Yes (CONTINUE TO ON-SITE PROCESS SYSTEM 1) <input checked="" type="checkbox"/> No (SKIP TO SEC. III)		
On-site Process System 1			On-site Process System 2		
On-site process system type (page 16) M			On-site process system type (page 16) M		
Quantity treated, disposed, or recycled on site in 1997 (page 16)			Quantity treated, disposed, or recycled on site in 1997 (page 16)		

Sec. III	A. Was any of this waste shipped off-site in 1997 for treatment, disposal or recycling? (page 17) <input checked="" type="checkbox"/> 1 Yes (CONTINUE TO BOX B) ___ 2 No (FORM IS COMPLETE)			
Site 1	B. EPA ID No. of facility waste was shipped to (page 17) TXD055141378	C. System type shipped to (p. 17) M044	D. Off-site availability code (page 17) 1	E. Total quantity shipped in 1997 (page 17) 134.0
Site 2	B. EPA ID No. of facility waste was shipped to (page 17) NJD2731779	C. System type shipped to (p. 17) M044	D. Off-site availability code (page 17) 1	E. Total quantity shipped in 1997 (page 17) 2.0
Site 3	B. EPA ID No. of facility waste was shipped to (page 17)	C. System type shipped to (p. 17)	D. Off-site availability code (page 17)	E. Total quantity shipped in 1997 (page 17)

Comments:

Sec. I, D - The ARCO Chemical Company Newtown Square site is a Research and Development Facility.  
No Commercial Manufacturing is conducted at this site.

BEFORE COPYING FORM, ATTACH SITE IDENTIFICATION LABEL OR ENTER:

SITE NAME: ARCO Chemical Company  
Newtown Square, PA 19073

EPA ID NO: PAD 046 538 211

US ENVIRONMENTAL  
PROTECTION AGENCY

1997 HAZARDOUS WASTE REPORT

FORM  
GM

WASTE GENERATION  
AND MANAGEMENT

INSTRUCTIONS: Please see the detailed instructions beginning on Page 11 of the instruction and forms booklet before completing this form. In addition, the page number for instructions specific to each box is provided in parentheses.

Sec. I	A. Waste Description - (page 12) Exhausted Nickel Cadmium Batteries generated in pilot plants and laboratories				
D. EPA hazardous waste code (page 12) D002			C. State hazardous waste code (page 13)		
D. SIC Code (page 13) 2869	E. Origin Code (page 13) System Type 1	F. Source Code (page 14) A55	G. Point of Measurement (p. 14) 1	H. Form code (page 14) B309	RCRA -radioactive mixed (page 14) 2

Sec. II	A. Quantity generated in 1997 (page 15) 55.0	B. UOM (page 15) 1 Density ___ 1 lbs/gal ___ 2 sg	C. Did this site do any of the following to this waste: treat on-site, dispose on site, recycle on site, or discharge to a sewer/POTW? (page 15) ___ Yes (CONTINUE TO ON-SITE PROCESS SYSTEM 1) <u>X</u> No (SKIP TO SEC. III)		
On-site Process System 1			On-site Process System 2		
On-site process system type (page 16) M Quantity treated, disposed, or recycled on site in 1997 (page 16)			On-site process system type (page 16) M Quantity treated, disposed, or recycled on site in 1997 (page 16)		

Sec. III	A. Was any of this waste shipped off-site in 1997 for treatment, disposal or recycling? (page 17) <u>X</u> 1 Yes (CONTINUE TO BOX B) ___ 2 No (FORM IS COMPLETE)			
Site 1	B. EPA ID No. of facility waste was shipped to (page 17) NJD980536593	C. System type shipped to (p. 17) M141	D. Off-site availability code (page 17) 1	E. Total quantity shipped in 1997 (page 17) 55.0
Site 2	B. EPA ID No. of facility waste was shipped to (page 17)	C. System type shipped to (p. 17)	D. Off-site availability code (page 17)	E. Total quantity shipped in 1997 (page 17)
Site 3	B. EPA ID No. of facility waste was shipped to (page 17)	C. System type shipped to (p. 17)	D. Off-site availability code (page 17)	E. Total quantity shipped in 1997 (page 17)

## Comments:

Sec. I, D - The ARCO Chemical Company Newtown Square site is a Research and Development Facility.  
No Commercial Manufacturing is conducted at this site.

BEFORE COPYING FORM, ATTACH SITE IDENTIFICATION LABEL OR ENTER:

SITE NAME: ARCO Chemical Company  
Newtown Square, PA 19073

EPA ID NO: PAD 046 538 211

US ENVIRONMENTAL  
PROTECTION AGENCY

1997 HAZARDOUS WASTE REPORT

FORM  
GM

WASTE GENERATION  
AND MANAGEMENT

INSTRUCTIONS: Please see the detailed instructions beginning on Page 11 of the instruction and forms booklet before completing this form. In addition, the page number for instructions specific to each box is provided in parentheses.

Sec. I	A. Waste Description - (page 12) Charcoal used for air pollution control in laboarotry and pilot plant units conatining organics including toluene, styrene, pentane and allyl alcohol				
B. EPA hazardous waste code (page 12) D001 F005			C. State hazardous waste code (page 13)		
D. SIC Code (page 13) 2869	E. Origin Code 1 (page 13) System Type	F. Source Code (page 14) A78	G. Point of Measurement (p. 14) 1	H. Form code (page 14) B404	RCRA -radioactive mixed (page 14) 2

Sec. II	A. Quantity generated in 1997 (page 15) 5280.0	B. UOM (page 15) 1 Density 1 lbs/gal 2 sg	C. Did this site do any of the following to this waste: treat on-site, dispose on site, recycle on site, or discharge to a sewer/POTW? (page 15) <input type="checkbox"/> Yes (CONTINUE TO ON-SITE PROCESS SYSTEM 1) <input checked="" type="checkbox"/> No (SKIP TO SEC. III)		
On-site Process System 1		On-site Process System 2			
On-site process system type (page 16) M		Quantity treated, disposed, or recycled on site in 1997 (page 16)			
On-site process system type (page 16) M		Quantity treated, disposed, or recycled on site in 1997 (page 16)			

Sec. III	A. Was any of this waste shipped off-site in 1997 for treatment, disposal or recycling? (page 17) <input checked="" type="checkbox"/> 1 Yes (CONTINUE TO BOX B) <input type="checkbox"/> 2 No (FORM IS COMPLETE)			
Site 1	B. EPA ID No. of facility waste was shipped to (page 17) OHD093452293	C. System type shipped to (p. 17) M061	D. Off-site availability code (page 17) 1	E. Total quantity shipped in 1997 (page 17) 4080.0
Site 2	B. EPA ID No. of facility waste was shipped to (page 17)	C. System type shipped to (p. 17)	D. Off-site availability code (page 17)	E. Total quantity shipped in 1997 (page 17)
Site 3	B. EPA ID No. of facility waste was shipped to (page 17)	C. System type shipped to (p. 17)	D. Off-site availability code (page 17)	E. Total quantity shipped in 1997 (page 17)

## Comments:

Sec. I, D - The ARCO Chemical Company Newtown Square site is a Research and Development Facility.  
No Commercial Manufacturing is conducted at this site.

BEFORE COPYING FORM, ATTACH SITE IDENTIFICATION LABEL OR ENTER:

SITE NAME: ARCO Chemical Company  
Newtown Square, PA 19073

EPA ID NO: PAD 046 538 211

US ENVIRONMENTAL  
PROTECTION AGENCY

1997 HAZARDOUS WASTE REPORT

FORM  
GM

WASTE GENERATION  
AND MANAGEMENT

INSTRUCTIONS: Please see the detailed instructions beginning on Page 11 of the instruction and forms booklet before completing this form. In addition, the page number for instructions specific to each box is provided in parentheses.

Sec. I	A. Waste Description - (page 12)					Waste produced in pilot plant units and laboratories containing acetone, styrene, acrylonitrile, isopropanol, polyether polyol, polymer polyol and water								
B. EPA hazardous waste code (page 12)					D001 F003					C. State hazardous waste code (page 13)				
D. SIC Code (page 13)		E. Origin Code (page 13)		F. Source Code (page 14)		G. Point of Measurement (p. 14)		H. Form code (page 14)		RCRA -radioactive mixed (page 14)				
2869		1 System Type		A94		1		B219		2				

Sec. II	A. Quantity generated in 1997 (page 15)		B. UOM (page 15)		C. Did this site do any of the following to this waste: treat on-site, dispose on site, recycle on site, or discharge to a sewer/POTW? (page 15)		
		23200.0		1		<input type="checkbox"/> Yes (CONTINUE TO ON-SITE PROCESS SYSTEM 1) <input checked="" type="checkbox"/> No (SKIP TO SEC. III)	
On-site Process System 1		On-site Process System 2					
On-site process system type (page 16)		Quantity treated, disposed, or recycled on site in 1997 (page 16)		On-site process system type (page 16)		Quantity treated, disposed, or recycled on site in 1997 (page 16)	
M				M			

Sec. III	A. Was any of this waste shipped off-site in 1997 for treatment, disposal or recycling? (page 17)			
<input checked="" type="checkbox"/> 1 Yes (CONTINUE TO BOX B) <input type="checkbox"/> 2 No (FORM IS COMPLETE)				
Site 1	B. EPA ID No. of facility waste was shipped to (page 17)	C. System type shipped to (p. 17)	D. Off-site availability code (page 17)	E. Total quantity shipped in 1997 (page 17)
	OHD093452293	M061	1	4400.0
Site 2	B. EPA ID No. of facility waste was shipped to (page 17)	C. System type shipped to (p. 17)	D. Off-site availability code (page 17)	E. Total quantity shipped in 1997 (page 17)
	NJD980536593	M141	1	16000.0
Site 3	B. EPA ID No. of facility waste was shipped to (page 17)	C. System type shipped to (p. 17)	D. Off-site availability code (page 17)	E. Total quantity shipped in 1997 (page 17)

## Comments:

Sec. I, D - The ARCO Chemical Company Newtown Square site is a Research and Development Facility.

No Commercial Manufacturing is conducted at this site.

Sec I, A - Polymer and Solvent wastestream

BEFORE COPYING FORM, ATTACH SITE IDENTIFICATION LABEL OR ENTER:

SITE NAME: ARCO Chemical Company  
Newtown Square, PA 19073

EPA ID NO: PAD 046 538 211

US ENVIRONMENTAL  
PROTECTION AGENCY

1997 HAZARDOUS WASTE REPORT

FORM  
GM

WASTE GENERATION  
AND MANAGEMENT

INSTRUCTIONS: Please see the detailed instructions beginning on Page 11 of the instruction and forms booklet before completing this form. In addition, the page number for instructions specific to each box is provided in parentheses.

Sec. I	A. Waste Description - (page 12) Ethylbenzene Hydroperoxide (EBHP) Solution from pilot plants and laboratories containing EBHP, ethylbenzene, acetophenone, methylbenzyl alcohol and octene				
B. EPA hazardous waste code (page 12) D001			C. State hazardous waste code (page 13)		
D. SIC Code (page 13) 2869	E. Origin Code (page 13) System Type 1	F. Source Code (page 14) A94	G. Point of Measurement (p. 14) 1	H. Form code (page 14) B212	RCRA -radioactive mixed (page 14) 2

Sec. II	A. Quantity generated in 1997 (page 15) 15200.0	B. UOM (page 15) 1 Density 1 lbs/gal 2 sg	C. Did this site do any of the following to this waste: treat on-site, dispose on site, recycle on site, or discharge to a sewer/POTW? (page 15) <input type="checkbox"/> Yes (CONTINUE TO ON-SITE PROCESS SYSTEM 1) <input checked="" type="checkbox"/> No (SKIP TO SEC. III)		
On-site Process System 1 (page 16) M			On-site Process System 2 (page 16) M		

Sec. III	A. Was any of this waste shipped off-site in 1997 for treatment, disposal or recycling? (page 17) <input checked="" type="checkbox"/> 1 Yes (CONTINUE TO BOX B) <input type="checkbox"/> 2 No (FORM IS COMPLETE)			
Site 1	B. EPA ID No. of facility waste was shipped to (page 17) NJD980536593	C. System type shipped to (p. 17) M141	D. Off-site availability code (page 17) 1	E. Total quantity shipped in 1997 (page 17) 14400.0
Site 2	B. EPA ID No. of facility waste was shipped to (page 17)	C. System type shipped to (p. 17)	D. Off-site availability code (page 17)	E. Total quantity shipped in 1997 (page 17)
Site 3	B. EPA ID No. of facility waste was shipped to (page 17)	C. System type shipped to (p. 17)	D. Off-site availability code (page 17)	E. Total quantity shipped in 1997 (page 17)

## Comments:

Sec. I, D - The ARCO Chemical Company Newtown Square site is a Research and Development Facility.  
No Commercial Manufacturing is conducted at this site.

BEFORE COPYING FORM, ATTACH SITE IDENTIFICATION LABEL OR ENTER:

SITE NAME: ARCO Chemical Company  
Newtown Square, PA 19073

EPA ID NO: PAD 046 538 211

US ENVIRONMENTAL  
PROTECTION AGENCY

1997 HAZARDOUS WASTE REPORT

FORM  
GM

WASTE GENERATION  
AND MANAGEMENT

INSTRUCTIONS: Please see the detailed instructions beginning on Page 11 of the instruction and forms booklet before completing this form. In addition, the page number for instructions specific to each box is provided in parentheses.

Sec. I	A. Waste Description - (page 12) Mixed isocyanates from pilot plants and laboratories containing toluene diisocyanate, methylene diphenyl diisocyanate and polyether polyol				
B. EPA hazardous waste code (page 12) D001 D003 U223			C. State hazardous waste code (page 13)		
D. SIC Code (page 13) 2869	E. Origin Code (page 13) System Type 1	F. Source Code (page 14) A94	G. Point of Measurement (p. 14) 1	H. Form code (page 14) B212	RCRA -radioactive mixed (page 14) 2

Sec. II	A. Quantity generated in 1997 (page 15) 5640.0	B. UOM (page 15) 1 Density ___ 1 lbs/gal ___ 2 sg	C. Did this site do any of the following to this waste: treat on-site, dispose on site, recycle on site, or discharge to a sewer/POTW? (page 15) ___ Yes (CONTINUE TO ON-SITE PROCESS SYSTEM 1) <input checked="" type="checkbox"/> No (SKIP TO SEC. III)		
On-site Process System 1 On-site process system type Quantity treated, disposed, or recycled on site (page 16) in 1997 (page 16) M			On-site Process System 2 On-site process system type Quantity treated, disposed, or recycled on site (page 16) in 1997 (page 16) M		

Sec. III	A. Was any of this waste shipped off-site in 1997 for treatment, disposal or recycling? (page 17) <input checked="" type="checkbox"/> 1 Yes (CONTINUE TO BOX B) ___ 2 No (FORM IS COMPLETE)			
Site 1	B. EPA ID No. of facility waste was shipped to (page 17) NJD980536593	C. System type shipped to (p. 17) M141	D. Off-site availability code (page 17) 1	E. Total quantity shipped in 1997 (page 17) 5240.0
Site 2	B. EPA ID No. of facility waste was shipped to (page 17)	C. System type shipped to (p. 17)	D. Off-site availability code (page 17)	E. Total quantity shipped in 1997 (page 17)
Site 3	B. EPA ID No. of facility waste was shipped to (page 17)	C. System type shipped to (p. 17)	D. Off-site availability code (page 17)	E. Total quantity shipped in 1997 (page 17)

## Comments:

Sec. I, D - The ARCO Chemical Company Newtown Square site is a Research and Development Facility.  
No Commercial Manufacturing is conducted at this site.

BEFORE COPYING FORM, ATTACH SITE IDENTIFICATION LABEL OR ENTER:

SITE NAME: ARCO Chemical Company  
Newtown Square, PA 19073

EPA ID NO: PAD 046 538 211

US ENVIRONMENTAL  
PROTECTION AGENCY

1997 HAZARDOUS WASTE REPORT

FORM  
GM

WASTE GENERATION  
AND MANAGEMENT

INSTRUCTIONS: Please see the detailed instructions beginning on Page 11 of the instruction and forms booklet before completing this form. In addition, the page number for instructions specific to each box is provided in parentheses.

Sec. I	A. Waste Description - (page 12)					Waste mixture generated in pilot plants and laboratories containing polyester, resin and debris								
EPA hazardous waste code (page 12)					D001					C. State hazardous waste code (page 13)				
D. SIC Code (page 13)		E. Origin Code (page 13)		F. Source Code (page 14)		G. Point of Measurement (p. 14)		H. Form code (page 14)		RCRA -radioactive mixed (page 14)				
2869		1 System Type		A94		1		B219		2				

Sec. II	A. Quantity generated in 1997 (page 15)		B. UOM (page 15)		C. Did this site do any of the following to this waste: treat on-site, dispose on site, recycle on site, or discharge to a sewer/POTW? (page 15)		
		15725.0		1		<input type="checkbox"/> Yes (CONTINUE TO ON-SITE PROCESS SYSTEM 1) <input checked="" type="checkbox"/> No (SKIP TO SEC. III)	
On-site Process System 1		On-site Process System 2		On-site process system type		Quantity treated, disposed, or recycled on site in 1997 (page 16)	
M		M					

Sec. III	A. Was any of this waste shipped off-site in 1997 for treatment, disposal or recycling? (page 17)			
<input checked="" type="checkbox"/> 1 Yes (CONTINUE TO BOX B) <input type="checkbox"/> 2 No (FORM IS COMPLETE)				
Site 1	B. EPA ID No. of facility waste was shipped to (page 17)	C. System type shipped to (p. 17)	D. Off-site availability code (page 17)	E. Total quantity shipped in 1997 (page 17)
	NJD980536593	M141	1	3205.0
Site 2	B. EPA ID No. of facility waste was shipped to (page 17)	C. System type shipped to (p. 17)	D. Off-site availability code (page 17)	E. Total quantity shipped in 1997 (page 17)
	OHD093945293	M061	1	12520.0
Site 3	B. EPA ID No. of facility waste was shipped to (page 17)	C. System type shipped to (p. 17)	D. Off-site availability code (page 17)	E. Total quantity shipped in 1997 (page 17)

## Comments:

Sec. I, D - The ARCO Chemical Company Newtown Square site is a Research and Development Facility.  
No Commercial Manufacturing is conducted at this site.

Sec. I, A - Polyester resin mixture

BEFORE COPYING FORM, ATTACH SITE IDENTIFICATION LABEL OR ENTER:

SITE NAME: ARCO Chemical Company  
Newtown Square, PA 19073

EPA ID NO: PAD 046 538 211

US ENVIRONMENTAL  
PROTECTION AGENCY

1997 HAZARDOUS WASTE REPORT

FORM  
GMWASTE GENERATION  
AND MANAGEMENT

INSTRUCTIONS: Please see the detailed instructions beginning on Page 11 of the instruction and forms booklet before completing this form. In addition, the page number for instructions specific to each box is provided in parentheses.

Sec. I	A. Waste Description - (page 12) Chlorinated solvent from cleaning operations in pilot plants and laboratories containing polyether polyols, amines and methylene chloride				
EPA hazardous waste code (page 12) F002			C. State hazardous waste code (page 13)		
D. SIC Code (page 13) 2869	E. Origin Code (page 13) System Type 1	F. Source Code (page 14) A09	G. Point of Measurement (p. 14) 1	H. Form code (page 14) B202	RCRA -radioactive mixed (page 14) 2

Sec. II	A. Quantity generated in 1997 (page 15) 2400.0	B. UOM (page 15) 1 Density 1 lbs/gal 2 sg	C. Did this site do any of the following to this waste: treat on-site, dispose on site, recycle on site, or discharge to a sewer/POTW? (page 15) <input type="checkbox"/> Yes (CONTINUE TO ON-SITE PROCESS SYSTEM 1) <input checked="" type="checkbox"/> No (SKIP TO SEC. III)		
On-site Process System 1 On-site process system type Quantity treated, disposed, or recycled on site (page 16) in 1997 (page 16) M			On-site Process System 2 On-site process system type Quantity treated, disposed, or recycled on site (page 16) in 1997 (page 16) M		

Sec. III	A. Was any of this waste shipped off-site in 1997 for treatment, disposal or recycling? (page 17) <input checked="" type="checkbox"/> 1 Yes (CONTINUE TO BOX B) <input type="checkbox"/> 2 No (FORM IS COMPLETE)			
Site 1	B. EPA ID No. of facility waste was shipped to (page 17) OHD093945293	C. System type shipped to (p. 17) M061	D. Off-site availability code (page 17) 1	E. Total quantity shipped in 1997 (page 17) 1600.0
Site 2	B. EPA ID No. of facility waste was shipped to (page 17)	C. System type shipped to (p. 17)	D. Off-site availability code (page 17)	E. Total quantity shipped in 1997 (page 17)
Site 3	B. EPA ID No. of facility waste was shipped to (page 17)	C. System type shipped to (p. 17)	D. Off-site availability code (page 17)	E. Total quantity shipped in 1997 (page 17)

## Comments:

Sec. I, D - The ARCO Chemical Company Newtown Square site is a Research and Development Facility.  
No Commercial Manufacturing is conducted at this site.

BEFORE COPYING FORM, ATTACH SITE IDENTIFICATION LABEL OR ENTER:

SITE NAME: ARCO Chemical Company  
Newtown Square, PA 19073

EPA ID NO: PAD 046 538 211

US ENVIRONMENTAL  
PROTECTION AGENCY

1997 HAZARDOUS WASTE REPORT

FORM  
GM

WASTE GENERATION  
AND MANAGEMENT

INSTRUCTIONS: Please see the detailed instructions beginning on Page 11 of the instruction and forms booklet before completing this form. In addition, the page number for instructions specific to each box is provided in parentheses.

Sec. I	A. Waste Description - (page 12) Waste generated in pilot plants and laboratories containing propionaldehyde, maleic acid, polyester resin and acetone				
B. EPA hazardous waste code (page 12) D001 D002 F003			C. State hazardous waste code (page 13)		
D. SIC Code (page 13) 2869	E. Origin Code (page 13) 1 System Type	F. Source Code (page 14) A94	G. Point of Measurement (p. 14) 1	H. Form code (page 14) B219	RCRA -radioactive mixed (page 14) 2

Sec. II	A. Quantity generated in 1997 (page 15) 3240.0		B. UOM (page 15) 1 Density 1 lbs/gal 2 sg	C. Did this site do any of the following to this waste: treat on-site, dispose on site, recycle on site, or discharge to a sewer/POTW? (page 15) <input type="checkbox"/> Yes (CONTINUE TO ON-SITE PROCESS SYSTEM 1) <input checked="" type="checkbox"/> No (SKIP TO SEC. III)	
On-site Process System 1 On-site process system type (page 16) M			On-site Process System 2 On-site process system type (page 16) M		

Sec. III	A. Was any of this waste shipped off-site in 1997 for treatment, disposal or recycling? (page 17) <input checked="" type="checkbox"/> 1 Yes (CONTINUE TO BOX B) <input type="checkbox"/> 2 No (FORM IS COMPLETE)				
Site 1	B. EPA ID No. of facility waste was shipped to (page 17) OHD093452293	C. System type shipped to (p. 17) M061	D. Off-site availability code (page 17) 1	E. Total quantity shipped in 1997 (page 17) 320.0	
Site 2	B. EPA ID No. of facility waste was shipped to (page 17) NJD980536593	C. System type shipped to (p. 17) M141	D. Off-site availability code (page 17) 1	E. Total quantity shipped in 1997 (page 17) 2740.0	
Site 3	B. EPA ID No. of facility waste was shipped to (page 17)	C. System type shipped to (p. 17)	D. Off-site availability code (page 17)	E. Total quantity shipped in 1997 (page 17)	

## Comments:

Sec. I, D - The ARCO Chemical Company Newtown Square site is a Research and Development Facility.

No Commercial Manufacturing is conducted at this site.

Sec I, A - Resin, precursors and solvent wastestream

BEFORE COPYING FORM, ATTACH SITE IDENTIFICATION LABEL OR ENTER:

SITE NAME: ARCO Chemical Company  
Newtown Square, PA 19073

EPA ID NO: PAD 046 538 211

US ENVIRONMENTAL  
PROTECTION AGENCY

1997 HAZARDOUS WASTE REPORT

FORM  
GM

WASTE GENERATION  
AND MANAGEMENT

INSTRUCTIONS: Please see the detailed instructions beginning on Page 11 of the instruction and forms booklet before completing this form. In addition, the page number for instructions specific to each box is provided in parentheses.

Sec. I	A. Waste Description - (page 12) Waste from filtering and cleaning in pilot plant containing ion exchange resin, isopropanol, and water				
B. EPA hazardous waste code (page 12) D001			C. State hazardous waste code (page 13)		
D. SIC Code (page 13) 2869	E. Origin Code (page 13) 1 System Type	F. Source Code (page 14) A32	G. Point of Measurement (p. 14) 1	H. Form code (page 14) B219	RCRA -radioactive mixed (page 14) 2

Sec. II	A. Quantity generated in 1997 (page 15) 2000.0	B. UOM (page 15) 1 Density 1 lbs/gal 2 sg	C. Did this site do any of the following to this waste: treat on-site, dispose on site, recycle on site, or discharge to a sewer/POTW? (page 15) <input type="checkbox"/> Yes (CONTINUE TO ON-SITE PROCESS SYSTEM 1) <input checked="" type="checkbox"/> No (SKIP TO SEC. III)		
On-site Process System 1		On-site Process System 2			
On-site process system type (page 16) M		Quantity treated, disposed, or recycled on site in 1997 (page 16)		On-site process system type (page 16) M	

Sec. III	A. Was any of this waste shipped off-site in 1997 for treatment, disposal or recycling? (page 17) <input checked="" type="checkbox"/> 1 Yes (CONTINUE TO BOX B) <input type="checkbox"/> 2 No (FORM IS COMPLETE)				
Site 1	B. EPA ID No. of facility waste was shipped to (page 17) OHD093945293	C. System type shipped to (p. 17) M061	D. Off-site availability code (page 17) 1	E. Total quantity shipped in 1997 (page 17) 2000.0	
Site 2	B. EPA ID No. of facility waste was shipped to (page 17)	C. System type shipped to (p. 17)	D. Off-site availability code (page 17)	E. Total quantity shipped in 1997 (page 17)	
Site 3	B. EPA ID No. of facility waste was shipped to (page 17)	C. System type shipped to (p. 17)	D. Off-site availability code (page 17)	E. Total quantity shipped in 1997 (page 17)	

## Comments:

Sec. I, D - The ARCO Chemical Company Newtown Square site is a Research and Development Facility.

No Commercial Manufacturing is conducted at this site.

Sec. I, A - Ion exchange resin in solution

BEFORE COPYING FORM, ATTACH SITE IDENTIFICATION LABEL OR ENTER:

SITE NAME: ARCO Chemical Company  
Newtown Square, PA 19073

EPA ID NO: PAD 046 538 211

US ENVIRONMENTAL  
PROTECTION AGENCY

1997 HAZARDOUS WASTE REPORT

FORM  
GM

WASTE GENERATION  
AND MANAGEMENT

INSTRUCTIONS: Please see the detailed instructions beginning on Page 11 of the instruction and forms booklet before completing this form. In addition, the page number for instructions specific to each box is provided in parentheses.

Sec. I	A. Waste Description - (page 12) Flammable and toxic liquids generated in pilot plants and laboratories containing styrene, acrylonitrile, allyl alcohol and propylene oxide				
B. EPA hazardous waste code (page 12) D001			C. State hazardous waste code (page 13)		
D. SIC Code (page 13) 2869	E. Origin Code 1 (page 13) System Type	F. Source Code (page 14) A94	G. Point of Measurement (p. 14) 1	H. Form code (page 14) B219	RCRA -radioactive mixed (page 14) 2

Sec. II	A. Quantity generated in 1997 (page 15) 2430.0	B. UOM (page 15) 1 Density ___ 1 lbs/gal ___ 2 sg	C. Did this site do any of the following to this waste: treat on-site, dispose on site, recycle on site, or discharge to a sewer/POTW? (page 15) ___ Yes (CONTINUE TO ON-SITE PROCESS SYSTEM 1) <u>X</u> No (SKIP TO SEC. III)		
On-site Process System 1			On-site Process System 2		
On-site process system type (page 16) M			Quantity treated, disposed, or recycled on site in 1997 (page 16)		
On-site process system type (page 16) M			Quantity treated, disposed, or recycled on site in 1997 (page 16)		

Sec. III	A. Was any of this waste shipped off-site in 1997 for treatment, disposal or recycling? (page 17) <u>X</u> 1 Yes (CONTINUE TO BOX B) ___ 2 No (FORM IS COMPLETE)			
Site 1	B. EPA ID No. of facility waste was shipped to (page 17) NJD980536593	C. System type shipped to (p. 17) M141	D. Off-site availability code (page 17) 1	E. Total quantity shipped in 1997 (page 17) 2400.0
Site 2	B. EPA ID No. of facility waste was shipped to (page 17) OHD093945293	C. System type shipped to (p. 17) M061	D. Off-site availability code (page 17) 1	E. Total quantity shipped in 1997 (page 17) 30.0
Site 3	B. EPA ID No. of facility waste was shipped to (page 17)	C. System type shipped to (p. 17)	D. Off-site availability code (page 17)	E. Total quantity shipped in 1997 (page 17)

## Comments:

Sec. I, D - The ARCO Chemical Company Newtown Square site is a Research and Development Facility.

No Commercial Manufacturing is conducted at this site.

Sec. I, A - Raw materials for polymer and polyol generation

BEFORE COPYING FORM, ATTACH SITE IDENTIFICATION LABEL OR ENTER:

SITE NAME: ARCO Chemical Company  
Newtown Square, PA 19073

EPA ID NO: PAD 046 538 211

US ENVIRONMENTAL  
PROTECTION AGENCY

1997 HAZARDOUS WASTE REPORT

FORM  
GM

WASTE GENERATION  
AND MANAGEMENT

INSTRUCTIONS: Please see the detailed instructions beginning on Page 11 of the instruction and forms booklet before completing this form. In addition, the page number for instructions specific to each box is provided in parentheses.

Sec. I	A. Waste Description - (page 12) Mixed hydroxide solutions from pilot plants and laboratories containing sodium hydroxide, water, and polyester resin				
B. EPA hazardous waste code (page 12) D002			C. State hazardous waste code (page 13)		
D. SIC Code (page 13) 2869	E. Origin Code (page 13) 1 System Type	F. Source Code (page 14) A94	G. Point of Measurement (p. 14) 1	H. Form code (page 14) B110	RCRA -radioactive mixed (page 14) 2

Sec. II	A. Quantity generated in 1997 (page 15) 680.0	B. UOM (page 15) 1 Density 1 lbs/gal 2 sg	C. Did this site do any of the following to this waste: treat on-site, dispose on site, recycle on site, or discharge to a sewer/POTW? (page 15) <input type="checkbox"/> Yes (CONTINUE TO ON-SITE PROCESS SYSTEM 1) <input checked="" type="checkbox"/> No (SKIP TO SEC. III)		
On-site Process System 1		On-site Process System 2			
On-site process system type (page 16) M		Quantity treated, disposed, or recycled on site in 1997 (page 16)		On-site process system type (page 16) M	
		Quantity treated, disposed, or recycled on site in 1997 (page 16)			

Sec. III	A. Was any of this waste shipped off-site in 1997 for treatment, disposal or recycling? (page 17) <input checked="" type="checkbox"/> 1 Yes (CONTINUE TO BOX B) <input type="checkbox"/> 2 No (FORM IS COMPLETE)			
Site 1	B. EPA ID No. of facility waste was shipped to (page 17) NJD980536593	C. System type shipped to (p. 17) M141	D. Off-site availability code (page 17) 1	E. Total quantity shipped in 1997 (page 17) 680.0
Site 2	B. EPA ID No. of facility waste was shipped to (page 17)	C. System type shipped to (p. 17)	D. Off-site availability code (page 17)	E. Total quantity shipped in 1997 (page 17)
Site 3	B. EPA ID No. of facility waste was shipped to (page 17)	C. System type shipped to (p. 17)	D. Off-site availability code (page 17)	E. Total quantity shipped in 1997 (page 17)

## Comments:

Sec. I, D - The ARCO Chemical Company Newtown Square site is a Research and Development Facility.  
No Commercial Manufacturing is conducted at this site.

BEFORE COPYING FORM, ATTACH SITE IDENTIFICATION LABEL OR ENTER:

SITE NAME: ARCO Chemical Company  
Newtown Square, PA 19073

EPA ID NO: PAD 046 538 211

US ENVIRONMENTAL  
PROTECTION AGENCY

1997 HAZARDOUS WASTE REPORT

FORM  
GM

WASTE GENERATION  
AND MANAGEMENT

INSTRUCTIONS: Please see the detailed instructions beginning on Page 11 of the instruction and forms booklet before completing this form. In addition, the page number for instructions specific to each box is provided in parentheses.

Sec. I	A. Waste Description - (page 12) Spill cleanup wastes containing acetone, butanol, cyclohexanone, gasoline, ethyl ether, propyl acetate, oil dry, dirt, and clay				
B. EPA hazardous waste code (page 12) D001 F003			C. State hazardous waste code (page 13)		
D. SIC Code (page 13) 2869	E. Origin Code (page 13) 1 System Type	F. Source Code (page 14) A53	G. Point of Measurement (p. 14) 1	H. Form code (page 14) B409	RCRA -radioactive mixed (page 14) 2

Sec. II	A. Quantity generated in 1997 (page 15) 680.0	B. UOM (page 15) 1 Density ___ 1 lbs/gal ___ 2 sg	C. Did this site do any of the following to this waste: treat on-site, dispose on site, recycle on site, or discharge to a sewer/POTW? (page 15) ___ Yes (CONTINUE TO ON-SITE PROCESS SYSTEM 1) <input checked="" type="checkbox"/> No (SKIP TO SEC. III)		
On-site Process System 1			On-site Process System 2		
On-site process system type (page 16) M			On-site process system type (page 16) M		
Quantity treated, disposed, or recycled on site in 1997 (page 16)			Quantity treated, disposed, or recycled on site in 1997 (page 16)		

Sec. III	A. Was any of this waste shipped off-site in 1997 for treatment, disposal or recycling? (page 17) <input checked="" type="checkbox"/> 1 Yes (CONTINUE TO BOX B) ___ 2 No (FORM IS COMPLETE)				
Site 1	B EPA ID No. of facility waste was shipped to (page 17) NJD980536593	C. System type shipped to (p. 17) M141	D. Off-site availability code (page 17) 1	E. Total quantity shipped in 1997 (page 17) 680.0	
Site 2	B EPA ID No. of facility waste was shipped to (page 17)	C. System type shipped to (p. 17)	D. Off-site availability code (page 17)	E. Total quantity shipped in 1997 (page 17)	
Site 3	B EPA ID No. of facility waste was shipped to (page 17)	C. System type shipped to (p. 17)	D. Off-site availability code (page 17)	E. Total quantity shipped in 1997 (page 17)	

## Comments:

Sec. I, D - The ARCO Chemical Company Newtown Square site is a Research and Development Facility.  
No Commercial Manufacturing is conducted at this site.

BEFORE COPYING FORM, ATTACH SITE IDENTIFICATION LABEL OR ENTER:

SITE NAME: ARCO Chemical Company  
Newtown Square, PA 19073

EPA ID NO: PAD 046 538 211

US ENVIRONMENTAL  
PROTECTION AGENCY

1997 HAZARDOUS WASTE REPORT

FORM  
GM

WASTE GENERATION  
AND MANAGEMENT

INSTRUCTIONS: Please see the detailed instructions beginning on Page 11 of the instruction and forms booklet before completing this form. In addition, the page number for instructions specific to each box is provided in parentheses.

Sec. I		A. Waste Description - (page 12) Contaminated debris from physical and chemical analyses containing mercury, paper, and plastic				
B. EPA hazardous waste code (page 12)		D009				
C. State hazardous waste code (page 13)						
D. SIC Code (page 13)	E. Origin Code (page 13)	F. Source Code (page 14)	G. Point of Measurement (p. 14)	H. Form code (page 14)	RCRA -radioactive mixed (page 14)	
2869	1 System Type	A94	1	B319	2	

Sec. II		A. Quantity generated in 1997 (page 15)		B. UOM (page 15)		C. Did this site do any of the following to this waste: treat on-site, dispose on site, recycle on site, or discharge to a sewer/POTW? (page 15)	
		625.0		1		<input type="checkbox"/> Yes (CONTINUE TO ON-SITE PROCESS SYSTEM 1) <input checked="" type="checkbox"/> No (SKIP TO SEC. III)	
On-site Process System 1		On-site Process System 2					
On-site process system type (page 16)		Quantity treated, disposed, or recycled on site in 1997 (page 16)		On-site process system type (page 16)		Quantity treated, disposed, or recycled on site in 1997 (page 16)	
M				M			

Sec. III		A. Was any of this waste shipped off-site in 1997 for treatment, disposal or recycling? (page 17)			
		<input checked="" type="checkbox"/> 1 Yes (CONTINUE TO BOX B) <input type="checkbox"/> 2 No (FORM IS COMPLETE)			
Site 1	B. EPA ID No. of facility waste was shipped to (page 17)	C. System type shipped to (p. 17)	D. Off-site availability code (page 17)	E. Total quantity shipped in 1997 (page 17)	
	NJD980536593	M141	1	625.0	
Site 2	B. EPA ID No. of facility waste was shipped to (page 17)	C. System type shipped to (p. 17)	D. Off-site availability code (page 17)	E. Total quantity shipped in 1997 (page 17)	
Site 3	B. EPA ID No. of facility waste was shipped to (page 17)	C. System type shipped to (p. 17)	D. Off-site availability code (page 17)	E. Total quantity shipped in 1997 (page 17)	

## Comments:

Sec. I, D - The ARCO Chemical Company Newtown Square site is a Research and Development Facility.

No Commercial Manufacturing is conducted at this site.

Sec. I, A - Contains <1% mercury





COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
BUREAU OF LAND RECYCLING AND WASTE MANAGEMENT

Inspection Date 9-8-99  
Time Start 1000  
Time Finish 1500

## HAZARDOUS WASTE INSPECTION REPORT

☒ GENERATOR ☐ S Q GENERATOR

Company name LYONDELL (FORMERLY ARCO) I.D. Number PAD 046538211  
Site Address 3801 W. CHESTER PIKE  
County DELAWARE Municipality NEWTOWN TWP Zip 19073  
Name of Inspector BEN WILLIAMS  
Name & Title of Responsible Official \_\_\_\_\_  
Person Interviewed THOMAS BAKER Telephone (610) 359-4849  
Mailing Address (if different from above) SAME  
Amount of Hazardous Waste Generated per Month: \_\_\_\_\_ Pounds \_\_\_\_\_ Kgs

## 1. Site Characterization:

STORAGE: ☒ Container ☐ Tanks ☐ Containment Bldg. ☐ Drip Pad Other \_\_\_\_\_  
PBR: ☐ Neutralization/WWTP ☐ Reclaim Other \_\_\_\_\_  
GENERATOR TREATMENT ☐ Containers ☐ Tanks ☐ Containment Bldg. ☐ Drip Pad

2. Universal Waste: ☐ Large Quantity Handler ☐ Small Quantity Handler

Universal Waste Types lead batteries and fluorescent lights

## 3. Hazardous Waste Transporters:

Transporter Name ONYX (formerly AETS) License Number PAAH 0500  
Transporter Name CLEAN HARBORS License Number PAAH 0312  
Transporter Name \_\_\_\_\_ License Number \_\_\_\_\_

## 4. Types of hazardous waste generated and destination facility (location &amp; type).

Waste Code	Waste Description	Destination Facility
D001	ACETONE	System Environmental Corp. Paulding, OH 45879 OHD 003048947
F003 D001	ISOPROPYL METHANOI	
F003, F005, D038	ACETONE ISOPROPANOL	
F002	methylene chloride, mixed amines	Chemical Waste management Resource Recovery, Inc. West Carrollton, OH 45449 OHD 093945293
D001	polyester resin, styrene	
U134, U204 U223, U219 P030	lab packs	Advanced Environmental Technical Services - Flanders, NJ NJD 980530593

COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
BUREAU OF LAND RECYCLING AND WASTE MANAGEMENT

## HAZARDOUS WASTE INSPECTION REPORT GENERATORS -- SMALL QUANTITY GENERATORS

Site Name Lyondell Chemical Co. ID Number PAD046538211 Date 9-8-99

1 - No Violation Observed    2 - Not Applicable    3 - Not Determined    4 - Non Compliance

### STATUS

1	2	3	4	REQUIREMENT	PA CIT. 25 PA Code	FED. CIT. 40 CFR	LINE NO.
X				Hazardous waste determination performed on all waste streams	262a.10	262.11	H001
X				Identification Number	262a.10	262.12	H002
X				Authorized transporters only	262a.10	262.12(c)	H003
X				Subsequent notification requirements met	262a.12(b)		H004
X				Proper manifest used	262a.10	262.21	H005
X				Manifests filled out correctly and completely	262a.20		H006
X				Manifests signed and routed properly	262a.23(a)	262.23	H007
X				Generator waste accumulated on site for 90 days or less	262a.10	262.34(a)	H008
	X			SQG waste accumulated on site for 180 days max unless 200 mile distance rule applies - 270 days	262a.10	262.34(e)(f)	H009
	X			SQG waste accumulated on-site never exceeds 6000 kg	262a.10	262.34(e)(f)	H010
X				Satellite accumulation requirements complied with	262a.10	262.34(c)	H011
X				Personnel training program per 265.16 complied with	262a.10	262.34(a)(4) 262.34(d)	H012
X				Manifest exception and biennial reports retained for 3 years	262a.10	262.40(a)(b)	H013
X				Specified records retained for three years	262a.10	262.40(c)	H014
X				Biennial reports submitted to the Department (LQG only)	262a.41	262.41	H015
X				Exception reporting procedures followed	262a.42	262.42	H016
X				Spill reporting procedures followed	262a.10	262.34(d)	H017
X				PPC plan developed and implemented	262a.10	262.34(a)	H018
	X			Special requirements followed for international shipments	262a.10	262.50 262.60	H019
X				Source reduction strategy prepared and available (LQG only)	262a.100		H020
	X			Excluded waste complies with exclusionary requirements	261a.4	261.4	H021

COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
BUREAU OF LAND RECYCLING AND WASTE MANAGEMENT

## HAZARDOUS WASTE INSPECTION REPORT GENERATORS -- SMALL QUANTITY GENERATORS FACILITY SPECIFICS

Site Name Lyondell Chemical Co. ID Number PAD040538211 Date 9-8-99

1 - No Violation Observed    2 - Not Applicable    3 - Not Determined    4 - Non Compliance

### STATUS

1	2	3	4	REQUIREMENT	PA CIT. 25 PA Code	FED CIT. 40 CFR	LINE NO.
				<b>CONTAINERS (Subchapter I)</b>			
		X		Containers managed in compliance with 40 CFR Part 265 Subpart I and 25 PA Code Chapter 265a Subchapter I	262a.10	262.34	H025
X				Containers of hazardous waste in good condition	265a.1	265.171	H026
X				Containers and stored waste compatible	265a.1	265.172	H027
		X		Containers kept closed except during addition or removal of wastes	265a.1	265.173(a)	H028
X				Containers managed to prevent leaks	265a.1	265.173(b)	H029
X				Container configuration and spacing insures safe management and access for inspection purposes and emergency equipment	265a.173		H030
X				Container storage areas inspected at least weekly	265a.1	265.174	H031
X				Special requirements for ignitable or reactive and incompatible waste complied with	265a.1	265.176-177	H032
		X		Proper containment and collection systems in place	265a.179		H033
X				Air emission standards complied with (AA, BB, CC)	265a.1	265.178	H034
X				Containers clearly marked with accumulation date and visible for inspection	262a.10	262.34(a)(2)	H035
X				Containers labeled "Hazardous Waste"	262a.10	262.34(a)(3)	H036
		X		Containers labeled accurately identify contents	SWMA 6018.403(b) (2)		H037

COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
BUREAU OF WASTE MANAGEMENT

INSPECTION REPORT COMMENTS

Company/Facility/Site Name: Lyondell (formerly Arco Chemical)  
Identification Number: PAD046538211  
Date of Inspection: 09/08/1999

On September 8, 1999, Jon Bower, Michelle Milburn and I (Ben Williams) conducted a routine joint inspection with George Houghton, EPA inspector of Lyondell located in Newtown township, Delaware County. We were accompanied on the inspection by Thomas Baker, Environmental Superintendent. The facility produces chemicals components that are utilized in the manufacture of other final items. This particular facility is research and development oriented and a large quantity generator of hazardous waste.

Waste is generated at the facility in R&D labs and the Pilot Plant. We first inspected the R&D labs. The labs are structured so that each group of six labs is joined by an access passage. This passage is utilized for storage of satellite waste prior to pick-up. The waste is placed into a rectangular containment bin and picked up for processing. The waste is latter lab packed or consolidated, which ever is applicable. Mr. Baker stated that waste is picked up from satellite containment every Monday, Wednesday and Friday.

Mr. Baker stated that waste is handled by Onyx, formerly AETS primarily labpacks. Clean Harbors handles primarily bulk solid waste. Mr. Baker stated that the maintenance department also utilized parts washers serviced by Safety Kleen Corp.

In lab area D2103 and D1065 we observed no waste in lab or passage area. We observed in a lab a container of mercury waste with a funnel in it open. This is contrary to 25 PA Code 265a.1. In lab area D2213 we observed lab tech, Dan Armstead consolidating many unlabeled containers. Mr. Armstead stated that the contents were nonhaz polyester materials. In lab D2223 we observed a container not labeled that a technician stated contained a non-regulated glycol type material.

We proceeded to the Pilot Plant which consists of 4 bays. Bay one and four operate independent while bays 2 and 3 operate as one unit. Bays 2 and 3 were not operating during our inspection and were not inspected. In bay one we observed a hooded area enclosed with Plexiglas that contained satellite containment for acetone wash consolidation. We observed a drum in bay one that Howard Miller stated is moved around the area to collect reactor wash material. We

*In the "Requirement" Section of this inspection report, each listed inspection item may provide only a brief version of its corresponding obligation as described in the body of the regulations. Please use the Chapter citations listed on this inspection report as a reference to obtain a detailed description of compliance requirements.*

*This inspection report is official notification that a representative of the Department of Environmental Protection, Waste Management Program, inspected the above installation. The findings of this inspection are shown in this report. This inspection report shall serve a formal notification of any violations which were observed during the inspection. Violations may also be discovered upon examination of the results of laboratory analyses and review of Department records. Additional notification may be forthcoming, concerning any violations indicated herein and listing any additional violations.*

*This report does not constitute an order or other appealable action of the Department. Nothing contained herein shall be deemed to grant or imply immunity from legal action for any violation noted herein.*

*Signature by the person interviewed does not necessarily imply concurrence with the findings on this report, but does acknowledge that the person was shown the report or that a copy was left with the person.*

Person Interviewed (Signature) Thomas Baker Date 9-8-99  
Inspector Signature Ben Williams Date 9-8-99  
File name: kunnle09-08-99 Page 4 of 5

COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
BUREAU OF WASTE MANAGEMENT

INSPECTION REPORT COMMENTS

Company/Facility/Site Name: Lyondell (formerly Arco Chemical)  
Identification Number: PAD046538211  
Date of Inspection: 09/08/1999

also observed a drum labeled Vaso that was open. It was determined that the drum was not correctly labeled. The drum actually contained acetone and water. This is contrary to SWMA 6018.403(b)(2). We also observed a zipper drain in the Pilot Plant. Mr. Miller stated that the drain emptied to a concrete swale, which emptied to a wastewater tank. The tank is then tested everyday and if acceptable released to the POTW.

We also inspected Bay 4 in the Pilot Plant. We observed a drum containing contaminated glassware. The drum was labeled as hazardous waste. We observed a drum labeled hazardous waste in a hood with an open funnel in it. This is contrary to PA Code 265a.1. We also observed the containment area outside of the Pilot Plant. Mr. Baker stated that the area is utilized for drum storage of one day or less prior to being moved to the main drum storage area. We observed cracks in the concrete of this area and the channel that drains the containment area was filled with dirt and debris. This is contrary to PA Code 265a.179.

We next inspected the pouring room, which maintained a hooded area where waste is consolidated. The technician present stated that the hood had no filters or scrubbers on them. We next inspected the main drum storage area. The area contained between 100-150 drums hazardous and non-regulated waste. No drums were observed that had been in containment longer than 90 days. The containment did contain cracks in the concrete base. This is contrary to PA Code 265a.179.

We reviewed paperwork to ensure manifest and facility compliance. The hazardous waste manifests and biennial report were reviewed. Training records, waste determinations and source reduction strategy were reviewed. The PPC plan was reviewed and found to be in compliance. All violations were corrected with the exception of the containment areas.

RECOMMENDATIONS:

1. Ensure drums are labeled and kept closed.
2. Address issues of improper containment areas.

*In the "Requirement" Section of this inspection report, each listed inspection item may provide only a brief version of its corresponding obligation as described in the body of the regulations. Please use the Chapter citations listed on this inspection report as a reference to obtain a detailed description of compliance requirements.*

*This inspection report is official notification that a representative of the Department of Environmental Protection, Waste Management Program, inspected the above installation. The findings of this inspection are shown in this report. This inspection report shall serve a formal notification of any violations which were observed during the inspection. Violations may also be discovered upon examination of the results of laboratory analyses and review of Department records. Additional notification may be forthcoming, concerning any violations indicated herein and listing any additional violations.*

*This report does not constitute an order or other appealable action of the Department. Nothing contained herein shall be deemed to grant or imply immunity from legal action for any violation noted herein.*

*Signature by the person interviewed does not necessarily imply concurrence with the findings on this report, but does acknowledge that the person was shown the report or that a copy was left with the person.*

Person Interviewed (Signature)

*Thomas P. Baker*

Date

*9-8-99*

Inspector Signature

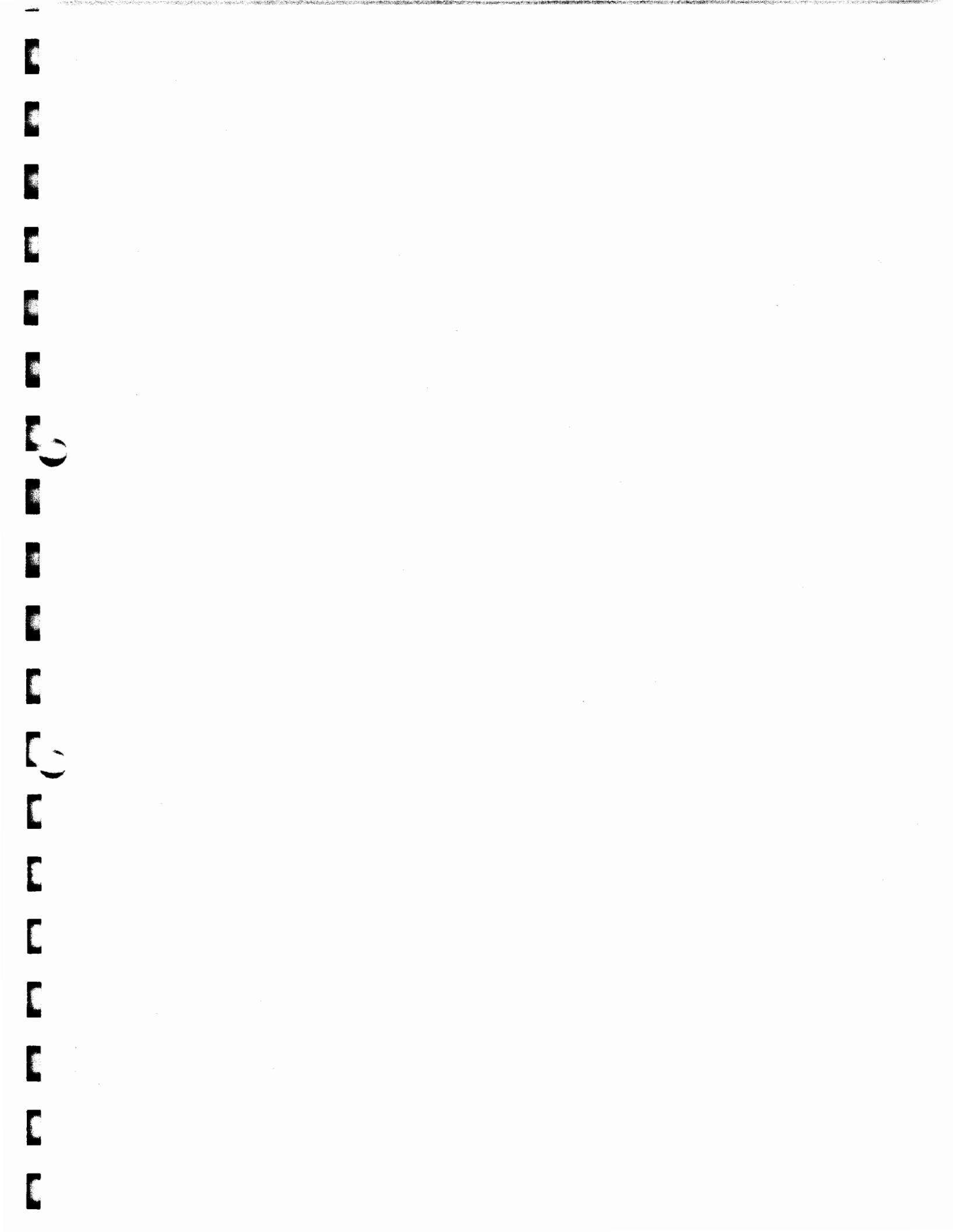
*Bryan J. Miller*

Date

*9-8-99*

File name: kwnrle09.00

Page 5 of 5





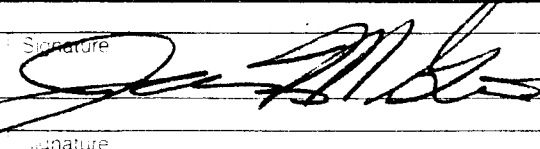
State of New Jersey  
Department of Environmental Protection  
Hazardous Waste Regulation Program  
Manifest Section  
P.O. Box 421, Trenton, NJ 08625-0421

Please type or print in block letters. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039.

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No.	Manifest Document No.	Page 1 of 1	Information in the shaded areas is not required by Federal law.	
3. Generator's Name and Mailing Address <b>LYONDELL CHEMICAL CO</b> <b>3801 WEST CHESTER PK</b> <b>NEWTOWN SQUARE PA 19073</b>		A. State Manifest Document Number <b>NJA 3042618</b>		B. State Generator's ID (Gen. Site Address) <b>SAME</b>		
4. Generator's Phone ( ) <b>610 359-4849</b>		5. US EPA ID Number		C. State Trans. ID-NJDEP <b>NJDEP0010 83420</b>		
5. Transporter 1 Company Name <b>ADVANCED ENVIR TECH SVCS/AETC</b>		6. US EPA ID Number		D. Transporter's Phone ( ) <b>973 347-7111</b>		
7. Transporter 2 Company Name		8. US EPA ID Number		E. State Trans. ID-NJDEP		
9. Designated Facility Name and Site Address <b>ONYX ENVIRONMENTAL SERVICES L.L.C.</b> <b>1 EDEN LANE</b> <b>FLANDERS, NJ 07836</b>		10. US EPA ID Number		Decal No. -		
11. US DOT Description (including Proper Shipping Name, Hazard Class or Division, HM, ID Number and Packing Group)		12. Containers No.		13. Total Quantity		
a. <b>RQ WASTE FLAMMABLE LIQUIDS, TOXIC, n.o.s. (ACRYLONITRILE, STYRENE) 3, UN1992, I (RQ=D001)</b>		001		IM 00400 P D001		
b. <b>RQ WASTE FLAMMABLE LIQUIDS, TOXIC, n.o.s. (MERCURY ACETATE) 3, UN1992, II (RQ=F003, D002)</b>		001		IM 00160 P F003		
c. <b>RQ WASTE FLAMMABLE LIQUIDS, n.o.s. 3, UN1993, II (RQ=F003, F005, D001)</b>		001		IM 00180 P F003		
d. <b>WASTE ALUMINUM POWDER, COATED 4.1, UN1309, II</b>		001		DF 00012 P D001		
J. Additional Descriptions for Materials Listed Above <b>L/I ACRYLONITRILE/STYRENE MIX</b> <b>L/I PLC</b>		K. Handling Codes for Wastes Listed Above a. <b>S 0 1 1</b> b. <b>S 0 1 1</b> c. <b>S 0 1 1</b> d. <b>S 0 1 1</b>		L. Waste No.		
16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations. I am a large quantity generator. I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment. OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.						
Printed/Typed Name <b>THOMAS P. BAKER</b>		Signature <i>Thomas Baker</i>		Month Day Year <b>08/19/99</b>		
Transporter 1 Acknowledgement of Receipt of Materials <b>James M Givens</b>		Signature <i>James M Givens</i>		Month Day Year <b>08/19/99</b>		
Transporter 2 Acknowledgement of Receipt of Materials		Signature		Month Day Year		
17. Discrepancy Indication Space						
18. Facility Owner or Generator: Certification of receipt of hazardous materials covered by this manifest except as noted in comments. <b>RECEIVED</b> <b>SEP 01</b> <b>T.P. BAKER</b>						
Printed/Typed Name <b>Kristopher Gordon</b>		Signature <i>Kristopher Gordon</i>		Month Day Year <b>10/12/14/99</b>		

NJA 3042618

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)		Generator's US EPA ID No <b>PAD046538211</b>	Manifest Document No <b>99079</b>	Page <b>2 of 4</b>		Information in the shaded areas is not required by Federal law																																																									
Generator's Name <b>LYONDELL CHEMICAL CO</b>			3801 WEST CHESTER PK NEWTOWN SQUARE, PA 19073			State Manifest Document Number <b>NJA3042618</b>																																																									
(610) 359-4849						State Generator's ID <b>SAME</b>																																																									
Transporter Company Name <b>ADVANCED ENVIR TECH SRVS(AETS)</b>			US EPA ID Number <b>NJD080631369</b>			NJDEP SO 160-83420 PAAH0500																																																									
Transporter Company Name			US EPA ID Number			O. Trans. Phone <b>973 347-7111</b>																																																									
						P. State Trans. ID																																																									
						S. Trans. Phone																																																									
US DOT Description (including Proper Shipping Name, Hazard Class, and ID Number)																																																															
<table border="1"> <thead> <tr> <th>HAZ</th> <th>Waste Description</th> <th>UN</th> <th>Type</th> <th>Quantity</th> <th>Unit</th> <th>Waste No.</th> </tr> </thead> <tbody> <tr> <td>X</td> <td>WASTE FLAMMABLE SOLIDS, ORGANIC, n.o.s. 4.1, UN1325, II</td> <td>001</td> <td>DF</td> <td>00015</td> <td>P</td> <td>D001</td> </tr> <tr> <td>X</td> <td>WASTE OXIDIZING LIQUID, CORROSIVE, n.o.s. 5.1, UN3098, I</td> <td>001</td> <td>DF</td> <td>00035</td> <td>P</td> <td>D001</td> </tr> <tr> <td>X</td> <td>RQ WASTE ORGANIC PEROXIDE TYPE E, LIQUID (<math>&lt;40\%</math> ETHYL BENZENE HYDROPEROXIDE, ETHYL BENZENE)(OP-9501014) 5.2, UN3107, II (RQ=D001)</td> <td>003</td> <td>DM</td> <td>01200</td> <td>P</td> <td>D001</td> </tr> <tr> <td>X</td> <td>WASTE ORGANIC PEROXIDE TYPE E, LIQUID (<math>&lt;40\%</math> ETHYLBENZENE HYDROPEROXIDE, ETHYL BENZENE)(OP-9501014) 5.2, UN3107, II</td> <td>001</td> <td>DF</td> <td>00038</td> <td>P</td> <td>D001</td> </tr> <tr> <td>X</td> <td>WASTE CYANIDES, INORGANIC, SOLID, n.o.s. (ZINC/COBALT CYANIDE, POTASSIUM HEXACYANOCOBALTATE) 6.1, UN1588, I, POISON, DOT-E 9168</td> <td>001</td> <td>CF</td> <td>00012</td> <td>P</td> <td>F030</td> </tr> <tr> <td>X</td> <td>RQ WASTE TOXIC LIQUIDS, FLAMMABLE, ORGANIC, n.o.s. (ALLYL ALCOHOL, ACETONE) 6.1, UN2929, I, POISON INHALATION HAZARD, ZONE B (RQ=D001, F003, F005)</td> <td>003</td> <td>DM</td> <td>01155</td> <td>P</td> <td>F005</td> </tr> <tr> <td>X</td> <td>WASTE TOXIC LIQUIDS, FLAMMABLE, ORGANIC, n.o.s. (ALLYL ALCOHOL) 6.1, UN2929, I, POISON INHALATION HAZARD, ZONE B</td> <td>007</td> <td>DF</td> <td>00350</td> <td>P</td> <td>D001</td> </tr> </tbody> </table>								HAZ	Waste Description	UN	Type	Quantity	Unit	Waste No.	X	WASTE FLAMMABLE SOLIDS, ORGANIC, n.o.s. 4.1, UN1325, II	001	DF	00015	P	D001	X	WASTE OXIDIZING LIQUID, CORROSIVE, n.o.s. 5.1, UN3098, I	001	DF	00035	P	D001	X	RQ WASTE ORGANIC PEROXIDE TYPE E, LIQUID ( $<40\%$ ETHYL BENZENE HYDROPEROXIDE, ETHYL BENZENE)(OP-9501014) 5.2, UN3107, II (RQ=D001)	003	DM	01200	P	D001	X	WASTE ORGANIC PEROXIDE TYPE E, LIQUID ( $<40\%$ ETHYLBENZENE HYDROPEROXIDE, ETHYL BENZENE)(OP-9501014) 5.2, UN3107, II	001	DF	00038	P	D001	X	WASTE CYANIDES, INORGANIC, SOLID, n.o.s. (ZINC/COBALT CYANIDE, POTASSIUM HEXACYANOCOBALTATE) 6.1, UN1588, I, POISON, DOT-E 9168	001	CF	00012	P	F030	X	RQ WASTE TOXIC LIQUIDS, FLAMMABLE, ORGANIC, n.o.s. (ALLYL ALCOHOL, ACETONE) 6.1, UN2929, I, POISON INHALATION HAZARD, ZONE B (RQ=D001, F003, F005)	003	DM	01155	P	F005	X	WASTE TOXIC LIQUIDS, FLAMMABLE, ORGANIC, n.o.s. (ALLYL ALCOHOL) 6.1, UN2929, I, POISON INHALATION HAZARD, ZONE B	007	DF	00350	P	D001
HAZ	Waste Description	UN	Type	Quantity	Unit	Waste No.																																																									
X	WASTE FLAMMABLE SOLIDS, ORGANIC, n.o.s. 4.1, UN1325, II	001	DF	00015	P	D001																																																									
X	WASTE OXIDIZING LIQUID, CORROSIVE, n.o.s. 5.1, UN3098, I	001	DF	00035	P	D001																																																									
X	RQ WASTE ORGANIC PEROXIDE TYPE E, LIQUID ( $<40\%$ ETHYL BENZENE HYDROPEROXIDE, ETHYL BENZENE)(OP-9501014) 5.2, UN3107, II (RQ=D001)	003	DM	01200	P	D001																																																									
X	WASTE ORGANIC PEROXIDE TYPE E, LIQUID ( $<40\%$ ETHYLBENZENE HYDROPEROXIDE, ETHYL BENZENE)(OP-9501014) 5.2, UN3107, II	001	DF	00038	P	D001																																																									
X	WASTE CYANIDES, INORGANIC, SOLID, n.o.s. (ZINC/COBALT CYANIDE, POTASSIUM HEXACYANOCOBALTATE) 6.1, UN1588, I, POISON, DOT-E 9168	001	CF	00012	P	F030																																																									
X	RQ WASTE TOXIC LIQUIDS, FLAMMABLE, ORGANIC, n.o.s. (ALLYL ALCOHOL, ACETONE) 6.1, UN2929, I, POISON INHALATION HAZARD, ZONE B (RQ=D001, F003, F005)	003	DM	01155	P	F005																																																									
X	WASTE TOXIC LIQUIDS, FLAMMABLE, ORGANIC, n.o.s. (ALLYL ALCOHOL) 6.1, UN2929, I, POISON INHALATION HAZARD, ZONE B	007	DF	00350	P	D001																																																									
(MANIFEST CONTINUED ON NEXT PAGE)																																																															
Additional Descriptions for Materials Listed Above				Handling Codes for Wastes Listed Above																																																											
A)S/I PLC E)S/H PLC B)L/I PLC G)L/I, T BOTTLES W/ALLYL ALCOHOL MIX (F003, D001) C)L/I ETHYLBENZENE HYDROPEROXIDE MIX D)L/I PLC H)L/I PLC				A-E G-H SO1 Christopher Rade 8-24-99																																																											
Special Handling Instructions and Additional Information																																																															
PACKING SLIPS ATTACHED FOR CLARIFICATION EMERGENCY PHONE 888 353-2387 N.J. PERMITS ISSUED IN THE NAME OF ONYX ENVIRONMENTAL SERVICES L.L.C.																																																															
Transporter Acknowledgement of Receipt of Materials				Date																																																											
Printed/Typed Name <b>James M Owens</b>				Signature 		Month Day Year <b>08/19/99</b>																																																									
Transporter Acknowledgement of Receipt of Materials				Date																																																											
Printed/Typed Name				Signature		Month Day Year																																																									
Discrepancy Indication Space																																																															

1. UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)		2. Generator's US EPA ID No <b>PADO46538211</b>		3. Manifest Document No <b>99079</b>		4. Page <b>3 of 4</b>		5. Information in the shaded areas is not required by Federal law																																																																																	
6. Generator's Name <b>LYONDELL CHEMICAL CO</b>				7. State Manifest Document Number <b>NJA3042618</b>				8. State Generator's ID <b>SAME</b>																																																																																	
9. Address <b>3801 WEST CHESTER PK NEWTOWN SQUARE, PA 19073</b>				10. State Generator's ID <b>NJDEP SOL 6-83420</b>				11. PAAH0500																																																																																	
12. Telephone <b>(610) 359-4849</b>				13. US EPA ID Number <b>NJD080631369</b>				14. State Trans. ID <b>973 347-7111</b>																																																																																	
15. Transporter's Name <b>ADVANCED ENVIR TECH SRVS(AETS)</b>				16. US EPA ID Number				17. State Trans. ID																																																																																	
18. Transporter's Address				19. Transporter's Telephone				20. State Trans. ID																																																																																	
21. DOT Description (including Proper Shipping Name, Hazard Class and ID Number)																																																																																									
<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>22. Hazardous Waste</th> <th>23. Quantity</th> <th>24. Hazardous Waste</th> <th>25. Hazardous Waste</th> <th>26. Hazardous Waste</th> <th>27. Hazardous Waste</th> <th>28. Hazardous Waste</th> <th>29. Hazardous Waste</th> <th>30. Hazardous Waste</th> <th>31. R. Waste No.</th> </tr> </thead> <tbody> <tr> <td>X RQ WASTE ISOCYANATE SOLUTIONS, TOXIC, n.o.s., FLASH POINT MORE THAN 61 DEGREES C AND BOILING (TOLUENE DIISOCYANATE, HEXAMETHYLENE DIISOCYANATE) 6.1, UN2206, II (RQ=D003)</td> <td>001</td> <td>DM</td> <td>00350</td> <td>P</td> <td></td> <td></td> <td></td> <td></td> <td>D003</td> </tr> <tr> <td>X WASTE TOXIC, LIQUIDS, ORGANIC, n.o.s. ((CARBON TETRACHLORIDE, CHROMIUM (III)-2,4 PENTANEDIONE) 6.1, UN2810, II</td> <td>001</td> <td>DF</td> <td>00012</td> <td>P</td> <td></td> <td></td> <td></td> <td></td> <td>D007</td> </tr> <tr> <td>X WASTE ISOCYANATES, TOXIC, n.o.s. FLASH POINT MORE THAN 61C AND BOILING POINT LESS THAN 300C (TOLUENE DIISOCYANATE, METHYLENE DIPHENYL DIISOCYANATE) 6.1, UN2206, II</td> <td>007</td> <td>DM</td> <td>00280</td> <td>P</td> <td></td> <td></td> <td></td> <td></td> <td>U223</td> </tr> <tr> <td>X WASTE TOXIC SOLID, INORGANIC, n.o.s. (VANADIUM PENTOXIDE, CADMIUM CHLORIDE) 6.1, UN3288, II</td> <td>001</td> <td>DF</td> <td>00015</td> <td>P</td> <td></td> <td></td> <td></td> <td></td> <td>P120</td> </tr> <tr> <td>X WASTE TOXIC LIQUID, INORGANIC, n.o.s. (POTASSIUM FERROCYANIDE) 6.1, UN3287, III, DOT-E 9168</td> <td>001</td> <td>CF</td> <td>00012</td> <td>P</td> <td></td> <td></td> <td></td> <td></td> <td>P030</td> </tr> <tr> <td>X WASTE CORROSIVE LIQUID, ACIDIC, INORGANIC, n.o.s. 8, UN3264, I</td> <td>001</td> <td>DF</td> <td>00025</td> <td>P</td> <td></td> <td></td> <td></td> <td></td> <td>D002</td> </tr> <tr> <td>X WASTE CORROSIVE LIQUID, BASIC, INORGANIC, n.o.s. 3, UN3266, I</td> <td>001</td> <td>DF</td> <td>00030</td> <td>P</td> <td></td> <td></td> <td></td> <td></td> <td>D002</td> </tr> </tbody> </table>										22. Hazardous Waste	23. Quantity	24. Hazardous Waste	25. Hazardous Waste	26. Hazardous Waste	27. Hazardous Waste	28. Hazardous Waste	29. Hazardous Waste	30. Hazardous Waste	31. R. Waste No.	X RQ WASTE ISOCYANATE SOLUTIONS, TOXIC, n.o.s., FLASH POINT MORE THAN 61 DEGREES C AND BOILING (TOLUENE DIISOCYANATE, HEXAMETHYLENE DIISOCYANATE) 6.1, UN2206, II (RQ=D003)	001	DM	00350	P					D003	X WASTE TOXIC, LIQUIDS, ORGANIC, n.o.s. ((CARBON TETRACHLORIDE, CHROMIUM (III)-2,4 PENTANEDIONE) 6.1, UN2810, II	001	DF	00012	P					D007	X WASTE ISOCYANATES, TOXIC, n.o.s. FLASH POINT MORE THAN 61C AND BOILING POINT LESS THAN 300C (TOLUENE DIISOCYANATE, METHYLENE DIPHENYL DIISOCYANATE) 6.1, UN2206, II	007	DM	00280	P					U223	X WASTE TOXIC SOLID, INORGANIC, n.o.s. (VANADIUM PENTOXIDE, CADMIUM CHLORIDE) 6.1, UN3288, II	001	DF	00015	P					P120	X WASTE TOXIC LIQUID, INORGANIC, n.o.s. (POTASSIUM FERROCYANIDE) 6.1, UN3287, III, DOT-E 9168	001	CF	00012	P					P030	X WASTE CORROSIVE LIQUID, ACIDIC, INORGANIC, n.o.s. 8, UN3264, I	001	DF	00025	P					D002	X WASTE CORROSIVE LIQUID, BASIC, INORGANIC, n.o.s. 3, UN3266, I	001	DF	00030	P					D002
22. Hazardous Waste	23. Quantity	24. Hazardous Waste	25. Hazardous Waste	26. Hazardous Waste	27. Hazardous Waste	28. Hazardous Waste	29. Hazardous Waste	30. Hazardous Waste	31. R. Waste No.																																																																																
X RQ WASTE ISOCYANATE SOLUTIONS, TOXIC, n.o.s., FLASH POINT MORE THAN 61 DEGREES C AND BOILING (TOLUENE DIISOCYANATE, HEXAMETHYLENE DIISOCYANATE) 6.1, UN2206, II (RQ=D003)	001	DM	00350	P					D003																																																																																
X WASTE TOXIC, LIQUIDS, ORGANIC, n.o.s. ((CARBON TETRACHLORIDE, CHROMIUM (III)-2,4 PENTANEDIONE) 6.1, UN2810, II	001	DF	00012	P					D007																																																																																
X WASTE ISOCYANATES, TOXIC, n.o.s. FLASH POINT MORE THAN 61C AND BOILING POINT LESS THAN 300C (TOLUENE DIISOCYANATE, METHYLENE DIPHENYL DIISOCYANATE) 6.1, UN2206, II	007	DM	00280	P					U223																																																																																
X WASTE TOXIC SOLID, INORGANIC, n.o.s. (VANADIUM PENTOXIDE, CADMIUM CHLORIDE) 6.1, UN3288, II	001	DF	00015	P					P120																																																																																
X WASTE TOXIC LIQUID, INORGANIC, n.o.s. (POTASSIUM FERROCYANIDE) 6.1, UN3287, III, DOT-E 9168	001	CF	00012	P					P030																																																																																
X WASTE CORROSIVE LIQUID, ACIDIC, INORGANIC, n.o.s. 8, UN3264, I	001	DF	00025	P					D002																																																																																
X WASTE CORROSIVE LIQUID, BASIC, INORGANIC, n.o.s. 3, UN3266, I	001	DF	00030	P					D002																																																																																
22. Additional Descriptions for Materials Listed Above						23. Handling Codes for Wastes Listed Above																																																																																			
A) L/R PLC      G) L/H PLC C) L/E PLC      H) L/C PLC      I) L/C PLC D) L/R, T MIXED ISOCYANATES (D001, D003) E) S/H PLC						A SOL GD SOL F-J SOL Christopher Gordon 8-24-99																																																																																			
24. Special Handling Instructions and Additional Information																																																																																									
PACKING SLIPS ATTACHED FOR CLARIFICATION      EMERGENCY PHONE 888 353-2387 N.J. PERMITS ISSUED IN THE NAME OF ONYX ENVIRONMENTAL SERVICES L.L.C.																																																																																									
25. Transporter's Name <b>James M Givens</b>								26. Date <b>08/19/99</b>																																																																																	
27. Transporter's Address								28. Date																																																																																	
29. Transporter's Telephone								30. Date																																																																																	
31. Discrepancy Indication Space																																																																																									

Use print or type (Form designed for use on electronic typewriter)

UNIFORM HAZARDOUS WASTE MANIFEST Continuation Sheet		Generator's US EPA ID No <b>PADO46538211</b>	Manifest Document No <b>99079</b>		Page <b>4 of 4</b>		Information in the shaded areas is not required by Federal law	
Generator's Name <b>LYONDELL CHEMICAL CO</b>		Address <b>3801 WEST CHESTER PK NEWTOWN SQUARE, PA 19073</b>		State Manifest Document Number <b>NJA3042618</b>		State Generator's ID		
Contact Person <b>(610) 359-4849</b>		US EPA ID Number <b>NJD080631369</b>		Trans. Phone <b>973 347-7111</b>		State Trans. ID		
Transporter <b>ADVANCED ENVIR TECH SRVS(AETS)</b>		US EPA ID Number		Trans. Phone		State Trans. ID		
DOT Description (including proper shipping name, hazard class, and ID Number)		Quantity	HAZ	PLC	Unit	R. Waste No.		
X WASTE CORROSIVE LIQUIDS, TOXIC, n.o.s. (HYDROFLUORIC ACID, CUPRIC SULFATE) 8, UN2922, I	001	DF	00040	P	U134			
X WASTE BROMINE 8, UN1744, I, POISON INHALATION HAZARD, ZONE A, DOT-E 9168	001	CF	00012	P	D002			
X WASTE CORROSIVE LIQUID, ACIDIC, ORGANIC, n.o.s. 8, UN3265, II	001	DF	00080	P	D002			
X WASTE CORROSIVE LIQUIDS, FLAMMABLE, n.o.s. (ACRYLIC ACID, MERCAPTOACETIC ACID) 8, UN2920, II	005	DM	00200	P	D001			
X WASTE MALEIC ANHYDRIDE 8, UN2215, III	001	DF	00060	P	U147			
X HAZARDOUS WASTE, SOLID, n.o.s. 9, NA3077, III	001	DF	00035	P	D009			
NON REGULATED MATERIAL DOT NON-REGULATED, NONE	001	DM	00040	P	ID72			
CHEMICALS, n.o.s. DOT NON-REGULATED, NONE	002	DF	00105	P	X910			
CHEMICALS, n.o.s. DOT NON-REGULATED, NONE	002	DM	00690	P	X910			
A) E/C, T PLC      E) S/T PLC      I) S/- FATTY ACID, POLYMERS, ETC. B) L/C PLC      F) S/E PLC C) L/C PLC      G) L/- HYDROXYPROPYL METHACRYLATE MIX D) L/I MIXED ACIDS (D002)      H) L/- PLC		Handling Codes for Wastes Listed Above <b>A-I 501</b> <i>Christopher Gordo 824-99</i>						
PACKING SLIPS ATTACHED FOR CLARIFICATION      EMERGENCY PHONE 888 353-2387 #S ID72 & X910 ARE REGULATED BY THE NJDEP ONLY! N.J. PERMITS ISSUED IN THE NAME OF ONYX ENVIRONMENTAL SERVICES L.L.C.								
Transporter's Name <b>James M Givens</b>		Signature <i>[Signature]</i>		Date <b>08/19/99</b>		Month Day Year		
Transporter's Name		Signature		Date		Month Day Year		
Discrepancy Indication Space								



Phase IV Certification  
Exempt Lab Pack LDR Certification Form

This notice is being sent to you in accordance with 40 CFR 268.7(a) to inform you that this shipment contains wastes restricted from land disposal by the USEPA under the land disposal restriction program.

1. Generator name Lyondell Chemical Co EPA ID # PADO46538211 Manifest # NJA3042618

2. This shipment contains lab-packs that do not carry waste codes listed in 40 CFR 268 Appendix IV. The EPA hazardous waste codes are listed on the appropriate packing slips. The method of treatment for these wastes is incineration. The numbers listed below represent the container numbers being shipped on this manifest to be disposed of under this alternate treatment standard.

PD 0107592001 / 9, 29, 28, 13, 12, 22, 5com, 14, 20, 21, 23, 18, 15,  
24, 19, 25

3. Subcategory Codes (check all that apply) (See 40 CFR 268 for details)

- |   |   |  |  |
|---|---|--|--|
| <input checked="" type="checkbox"/> D001 Hi > 10% TOC     | <input checked="" type="checkbox"/> D003 Other Reactive | <input type="checkbox"/> P047 Salts                | <input type="checkbox"/> P092 Lo rmerc res.                            |
| <input checked="" type="checkbox"/> D001 Except Hi-TOC    | <input type="checkbox"/> D006 Batteries                 | <input type="checkbox"/> P047 Non-Salts            | <input type="checkbox"/> P092 not inc./rmerc res.                      |
| <input checked="" type="checkbox"/> D003 Reactive Cyanide | <input type="checkbox"/> D008 Lead acid batteries       | <input type="checkbox"/> P065 Lo Incin. Res.       | <input type="checkbox"/> P092 Hi inc./rmerc res.                       |
| <input type="checkbox"/> D003 Reactive Sulfide            | <input type="checkbox"/> F025 Light ends                | <input type="checkbox"/> P065 Lo RMERC Res.        | <input type="checkbox"/> U240 <input type="checkbox"/> U240 salts/est. |
| <input type="checkbox"/> D003 Explosive                   | <input type="checkbox"/> F025 Spent Filters             | <input type="checkbox"/> P065 not incin/rmerc res. |  |
| <input type="checkbox"/> D003 Water Reactives             | <input type="checkbox"/> K069 Calcium sulfate           | <input type="checkbox"/> P065 Hi incin/rmerc res.  |  |
| <input type="checkbox"/> D003 Unexp Ord. Emg              | <input type="checkbox"/> K069 Non-Calcium Sulfate       | <input type="checkbox"/> P092 Lo Incin res.        |  |

4. All Lab packs contain non-wastewater material unless "ww" is present on the container packing slip. Note: Phase IV Certifications do not require identification of WW or NWW.

If F001-F005 codes apply and disposal facility does not monitor for all spent solvent constituents, check box and attach list of applicable constituents. ☐  
(You may use the list in section 7 of the AETS waste stream LDR form)

5. Phase II Certification "I certify under penalty of law that I personally have examined and am familiar with the waste and that the lab pack does not contain any of the waste identified under 40 CFR 268 Appendix IV. I am aware that there are significant penalties for submitting false certifications, including the possibility of fine or imprisonment."

(States authorized by EPA to manage the LDR program may have regulatory citations different from the 40 CFR citations listed. Where these regulatory citations differ, your certification will be deemed to refer to those state citations instead of the 40 CFR citations.)

6. Phase IV Certification for Lab Packs "I certify under penalty of law that I personally have examined and am familiar with the waste and that the lab pack contains only wastes that have not been excluded under appendix IV to 40 CFR part 268 and that this lab pack will be sent to a combustion facility in compliance with the alternative treatment standards for lab packs at 40 CFR 268.42(c). I am aware that there are significant penalties for submitting a false certification, including the possibility of fine or imprisonment." (States authorized by EPA to manage the LDR program may have regulatory citations different from the 40 CFR citations listed. Where these regulatory citations differ, your certification will be deemed to refer to those state citations instead of the 40 CFR citations.)

7. Signature Stennus Baker Title ENV. SUPERINTENDENT Date 8/19/99

GENERATOR COPY

## LAND DISPOSAL NOTIFICATION AND CERTIFICATION FORM PHASE IV

Page 1 of 1

Generator Name: Lyondell Chemical Co EPA ID # 14D046538211 State Manifest No. UT43042618

1. If waste is a wastewater (see 40 CFR 268.2) place "w" next to the applicable code(s)

2. CODES WITH SUBCATEGORIES (place appropriate letter from section 9 before each code that applies) (See 40 CFR 268 for details)

<input type="checkbox"/> D001 Hi-TOC	<input type="checkbox"/> D008 Lead acid batteries	<input type="checkbox"/> K069 Not Calcium Sulfate	<input type="checkbox"/> P065 Lo RMERC Res.	<input type="checkbox"/> U151 Hi Hg
<input type="checkbox"/> D001 Except Hi-TOC	<input checked="" type="checkbox"/> A D009 Organic Hg > 260ppm	<input type="checkbox"/> K071 Rmerc Res.	<input type="checkbox"/> P065 Not Inc./RMERC Res.	<input type="checkbox"/> U240 2, 4 D
<input type="checkbox"/> D003 Reactive Cyanide	<input type="checkbox"/> D009 Inorg. Hg > 260	<input type="checkbox"/> K071 Not Rmerc Res.	<input type="checkbox"/> P065 Hi Inc./RMERC Res.	<input type="checkbox"/> U240 2, 4 esters & Salts
<input type="checkbox"/> D003 Reactive Sulfide	<input type="checkbox"/> D009 Hg < 260	<input type="checkbox"/> K106 Lo Rmerc Res.	<input type="checkbox"/> P092 Lo Inc. Res.	
<input type="checkbox"/> D003 Explosive	<input type="checkbox"/> F025 Light ends	<input type="checkbox"/> K106 Not Rmerc Res.	<input type="checkbox"/> P092 Lo RMERC Res.	
<input type="checkbox"/> D003 Water Reactives	<input type="checkbox"/> F025 Spent filter	<input type="checkbox"/> K106 > 260 ppm Hg	<input type="checkbox"/> P092 Not Inc./RMERC Res.	
<input type="checkbox"/> D003 Unexp Ord. Emg	<input type="checkbox"/> K006 Hydrated	<input type="checkbox"/> P047 Salts	<input type="checkbox"/> P092 Hi Inc./RMERC Res.	
<input checked="" type="checkbox"/> A D003 Other Reactives	<input type="checkbox"/> K006 Anhydrous	<input type="checkbox"/> P047 Nonsalts	<input type="checkbox"/> U151 Lo RMERC Res.	
<input type="checkbox"/> D006 Batteries	<input type="checkbox"/> K069 Calcium Sulfate	<input type="checkbox"/> P065 Lo Inc. Res.	<input type="checkbox"/> U151 Lo Not RMERC Res.	

3. subcategory for D018-D043 waste is "treated in nonCWA/nonSDWA facility" unless the following box is checked: ☐ "treated in CWA/SDWA facility"

3. COMMON CODES (Place appropriate letter from section 9 before each code that applies)

<input checked="" type="checkbox"/> A D002	<input type="checkbox"/> P012	<input type="checkbox"/> P030	<input type="checkbox"/> P051	<input type="checkbox"/> P098	<input type="checkbox"/> P105	<input type="checkbox"/> P205	<input type="checkbox"/> F006	<input type="checkbox"/> F007	<input type="checkbox"/> F008	<input type="checkbox"/> F009	<input type="checkbox"/> F010	<input type="checkbox"/> F011	<input type="checkbox"/> F012	<input type="checkbox"/> F019	<input type="checkbox"/> F039
<input type="checkbox"/> D004	<input type="checkbox"/> D005	<input type="checkbox"/> D006	<input type="checkbox"/> D007	<input type="checkbox"/> D008	<input type="checkbox"/> D009	<input type="checkbox"/> D010	<input type="checkbox"/> D011	<input type="checkbox"/> D012	<input type="checkbox"/> D013	<input type="checkbox"/> D014	<input type="checkbox"/> D015	<input type="checkbox"/> D016	<input type="checkbox"/> D017	<input type="checkbox"/> D018	<input type="checkbox"/> D019
<input type="checkbox"/> D020	<input type="checkbox"/> D021	<input type="checkbox"/> D022	<input type="checkbox"/> D023	<input type="checkbox"/> D024	<input type="checkbox"/> D025	<input type="checkbox"/> D026	<input type="checkbox"/> D027	<input type="checkbox"/> D028	<input type="checkbox"/> D029	<input type="checkbox"/> D030	<input type="checkbox"/> D031	<input type="checkbox"/> D032	<input type="checkbox"/> D033	<input type="checkbox"/> D034	<input type="checkbox"/> D035
<input type="checkbox"/> D036	<input type="checkbox"/> D037	<input type="checkbox"/> D038	<input type="checkbox"/> D039	<input type="checkbox"/> D040	<input type="checkbox"/> D041	<input type="checkbox"/> D042	<input type="checkbox"/> D043	<input type="checkbox"/> F001	<input type="checkbox"/> F002	<input checked="" type="checkbox"/> A F003	<input type="checkbox"/> F004	<input checked="" type="checkbox"/> A F005	<input type="checkbox"/> U002	<input type="checkbox"/> U003	<input type="checkbox"/> U006
<input type="checkbox"/> U007	<input type="checkbox"/> U044	<input type="checkbox"/> U061	<input type="checkbox"/> U072	<input type="checkbox"/> U080	<input type="checkbox"/> U108	<input type="checkbox"/> U117	<input type="checkbox"/> U122	<input type="checkbox"/> U123	<input type="checkbox"/> U136	<input type="checkbox"/> U154	<input type="checkbox"/> U188	<input checked="" type="checkbox"/> A U213	<input type="checkbox"/> U220	<input type="checkbox"/> U226	<input type="checkbox"/> U279
															<input type="checkbox"/> K061

4. ADDITIONAL CODES (Enter all codes not identified above which are associated with waste)

USEPA HAZARDOUS WASTE CODE(S)	5. TREATMENT STANDARDS FOR NON-PHASE II STATES (INDICATE THE APPLICABLE TREATMENT STANDARD 268.41, 268.43 OR SPECIFIED TECHNOLOGY BELOW)	6. HOW MUST THE WASTE BE MANAGED? ENTER THE LETTER FROM BELOW
U223 U134		A

To identify F039, or UHCs managed in non-CWA, use the "F039/Underlying Hazardous Constituents Form" provided (CWM-2004) and check here: ☐If UHCs are present upon generation check here: ☒ Check here if disposal facility will check for all UHCs ☐ (i.e. no UHC form required)If additional EPA waste code(s), use the supplemental sheet and check here: ☐ In lieu of supplemental sheet you may use multiple copies of this form.7. SOLVENT CONSTITUENTS (F001 - F005) Check here if disposal facility will check for all spent solvents ☐

<input checked="" type="checkbox"/> Acetone	<input type="checkbox"/> Benzene	<input type="checkbox"/> n-Butyl alcohol	<input type="checkbox"/> Carbon disulfide
<input type="checkbox"/> Carbon Tetrachloride	<input type="checkbox"/> Chlorobenzene	<input type="checkbox"/> O-Cresol	<input type="checkbox"/> Cresols (m&p)
<input type="checkbox"/> Cyclohexanone	<input type="checkbox"/> o-Dichlorobenzene	<input type="checkbox"/> 2-Ethoxyethanol	<input type="checkbox"/> Ethyl acetate
<input type="checkbox"/> Ethyl benzene	<input type="checkbox"/> Ethyl ether	<input type="checkbox"/> Isobutanol	<input checked="" type="checkbox"/> A Methanol
<input type="checkbox"/> Methylene chloride	<input type="checkbox"/> Methyl ethyl ketone	<input type="checkbox"/> Methyl isobutyl ketone	<input checked="" type="checkbox"/> A Nitrobenzene
<input type="checkbox"/> 2-Nitropropane	<input type="checkbox"/> Pyridine	<input type="checkbox"/> Tetrachloroethylene	<input type="checkbox"/> Toluene
<input type="checkbox"/> 1,1,1 Trichloroethane	<input type="checkbox"/> 1, 1, 2-Trichloroethane	<input type="checkbox"/> 1, 1, 2-Trichloro, 1, 2, 2-trifluoroethane	<input type="checkbox"/> Trichloroethylene
<input type="checkbox"/> Trichloromonofluoromethane	<input type="checkbox"/> Xylenes		

8. (States authorized by EPA to manage the LDR program may have regulatory citations different from the 40 CFR citations listed below. Where these regulatory citations differ, your certification will be deemed to refer to those state citations instead of the 40 CFR citations.)

**RESTRICTED WASTE REQUIRES TREATMENT**

This waste must be treated to the applicable treatment standards set forth in 40 CFR Part 268.40.

For Hazardous Debris: "This hazardous debris is subject to the alternative treatment standards of 40 CFR 268.45."

**RESTRICTED WASTE TREATMENT TO PERFORMANCE STANDARDS**

"I certify under penalty of law that I have personally examined and am familiar with the treatment technology and operation of the treatment process used to support this certification. Based on my inquiry of those individuals immediately responsible for obtaining this information, I believe that the treatment process has been operated and maintained properly so as to comply with the treatment standards specified in 40 CFR 268.40 without impermissible dilution of the prohibited waste. I am aware that there are significant penalties for submitting a false certification, including the possibility of a fine and imprisonment."

**(CERTIFICATION REMOVED BY PHASE IV)****GOOD FAITH AND ANALYTICAL CERTIFICATION - FOR INCINERATED ORGANICS**

"I certify under penalty of law that I have personally examined and am familiar with the treatment technology and operation of the treatment process used to support this certification. Based on my inquiry of those individuals immediately responsible for obtaining this information, I believe that the nonwastewater organic constituents have been treated by combustion units as specified in 268.42, Table 1. I have been unable to detect the nonwastewater organic constituents, despite having used best good faith efforts to analyze for such constituents. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment."

**DECHARACTERIZED WASTE REQUIRES TREATMENT FOR UNDERLYING HAZARDOUS CONSTITUENTS**

"I certify under penalty of law that the waste has been treated in accordance with the requirements of 40 CFR 268.40 to remove the hazardous characteristic. This decharacterized waste contains underlying hazardous constituents that require further treatment to meet universal treatment standards. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment."

**RESTRICTED WASTE SUBJECT TO A VARIANCE**

This waste is subject to a national capacity variance, a treatability variance, or a case-by-case extension. Enter the effective date of prohibition in column 5 above.

For hazardous debris: "This hazardous debris is subject to the alternative treatment standards of 40 CFR 268.45."

**D. RESTRICTED WASTE CAN BE LAND DISPOSED WITHOUT FURTHER TREATMENT**

"I certify under penalty of law that I have personally examined and am familiar with the waste through analysis and testing or through knowledge of the waste to support this certification that the waste complies with the treatment standards specified in 40 CFR Part 268 Subpart D. I believe that the information I submitted is true, accurate and complete. I am aware that there are significant penalties for submitting a false certification, including the possibility of a fine and imprisonment."

**E. WASTE NOT CURRENTLY SUBJECT TO PART 268 RESTRICTIONS**

This waste is a newly identified waste that is not currently subject to any 40 CFR Part 268 restrictions.

I hereby certify that all information in this and all associated documents is complete and accurate, to the best of my knowledge and information.

Signature

Thomas Baker  
ENV. SUPERINTENDENT

Date

8/19/99



# PACKING SLIP

8/17/1999

DATE ACCUMULATED

8/19/1989

DATE SHIPPED \_\_\_\_\_

PD 0107592001 011

CONTAINER #

LYONDELL CHEMICAL CO

3801 WEST CHESTER PK  
NEWTOWN SQUARE, PA 19073

PAD046538211

(120000)

GENERATOR - ADDRESS - EPA #  
NJ A3042618

GENERATOR = ADDR  
NJA3042618

4F

DOT PROPER SHIPPING NAME — HAZARD CLASS

TWIBB1445

209967

UN/NA

7

STATE MANIFEST DOCUMENT NO.

PG/LINE

DISPOSAL CODE

01

E/D009

W.I.P. #

GROUP

301G DF

~~4.09 cf~~

## COMMON DRUGS

EPA CODE

CONTAINER TYPE

[illegible]TOTAL  
WEIGHT

00035 1b

P-55

## TECHNICAL SUPERVISOR

INITIAL